

# MERIDIAN OIL

April 9, 1986

State of Utah Natural Resources  
Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Attention: Arlene Sollis

**RECEIVED**  
APR 11 1986

DIVISION OF  
OIL, GAS & MINING

Re: Application for Permit to Drill  
42-9 Navajo-Federal  
SENE Section 9-39S-25E  
San Juan County, Utah  
Federal Lease No. U-52333

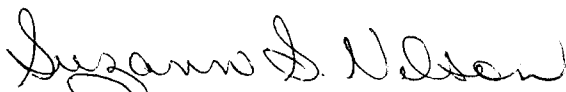
Gentlemen:

Enclosed are three copies of Form 3160-3, Application for Permit to Drill with attachments for the above referenced location.

Please be advised that Meridian Oil Inc. requests that all pertinent data for this location be granted TIGHT HOLE status.

If you have any questions, please do not hesitate to call me at 406-256-4122.

Sincerely,



S. S. Nelson  
Sr. Operations Technician

ssn

Encl

1175N

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR

P. O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface

SENE (1850' FNL - 1140' FEL)

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

6 miles west Hatch Trading Post

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

179'

16. NO. OF ACRES IN LEASE

2920.8

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

1500'

19. PROPOSED DEPTH

5845'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

4857' GL (graded)

22. APPROX. DATE WORK WILL START\*

June 15, 1986

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2	13-3/8	48#	80'	Redi-Mix to surface
11	8-5/8	24#	2,000'	Two stage, DV tool @ 1500'.
11	8-5/8	32#	3,300'	Cmt to sfc w/1500 sx "B" Lite.
7-7/8	5-1/2	15.5#	5,845'	Single stage, top of cmt @ 2800'
				Caliper log + 40% excess, "B" Lite

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Oil & Gas Order #1

Attachments:

Survey Plat

Eight Point Drilling Program

Thirteen Point Surface Use Plan

DIVISION OF  
OIL, GAS & MINING

CONFIDENTIAL INFORMATION

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*[Signature]*

TITLE

Sr. Drilling Engineer

DATE

3/31/86

(This space for Federal or State office use)

PERMIT NO. 43-037-31263

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

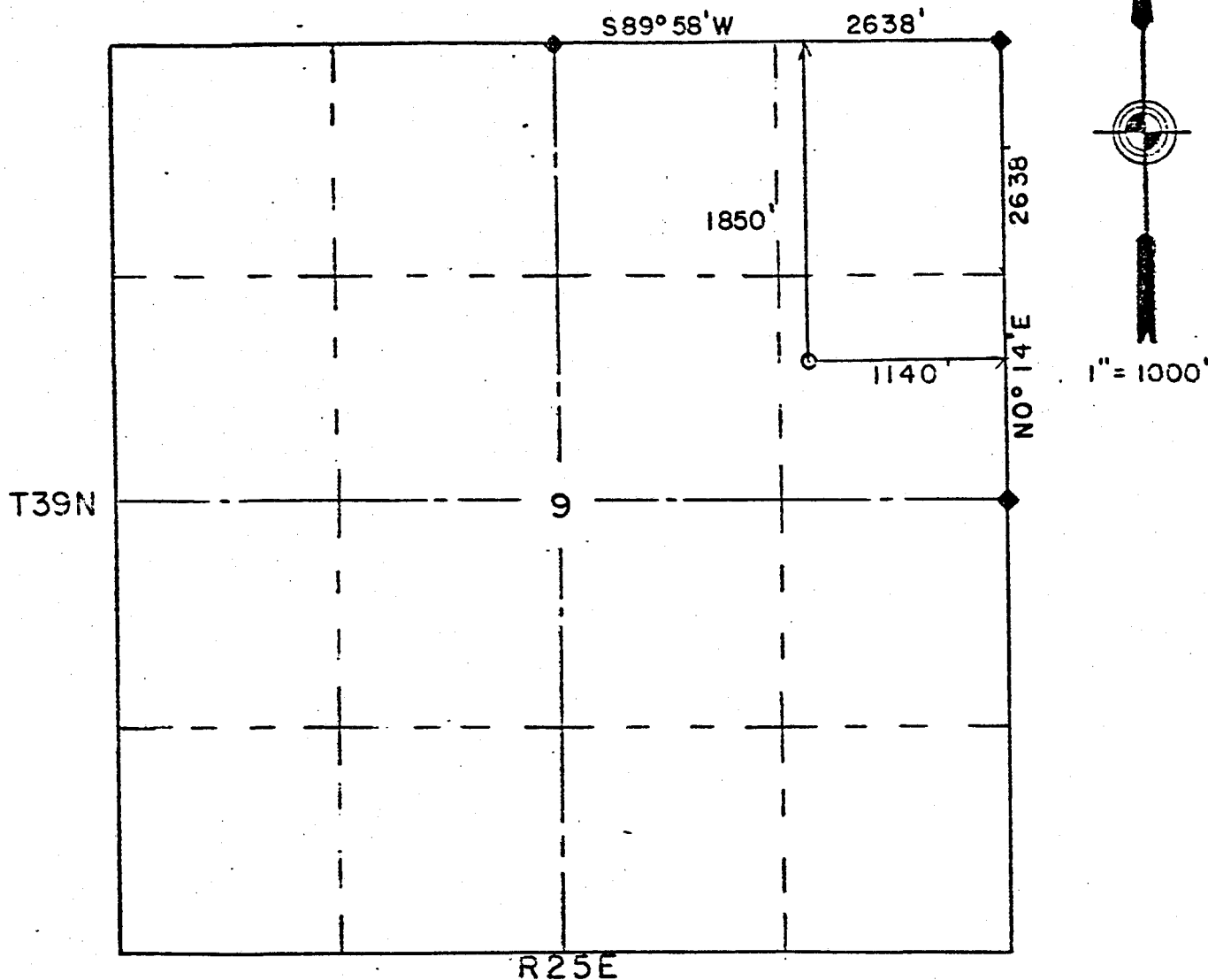
DATE: 4-25-86

BY: *[Signature]*

WELL SPACING: 302-1

\*See Instructions On Reverse Side

WELL LOCATION PLAT



WELL LOCATION DESCRIPTION:

MERIDIAN OIL  
42-9 NAVAJO-FEDERAL  
1850' FN & 1140' FE  
SECTION 9, T39S, R25E, SLM  
SAN JUAN COUNTY, UTAH  
GROUND ELEVATION 4861'

REFERENCES:

200' SOUTH 4867'

200' NORTH 4849'

13 MARCH, 1986

The above plat is true and correct to the best of my knowledge and belief.

Gerald G. Huddleston  
Land Surveyor

# MERIDIAN OIL

April 9, 1986

State of Utah Natural Resources  
Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

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APR 11 1986

DIVISION OF  
OIL, GAS & MINING

Attention: Arlene Sollis

Re: Request for Exception Location  
42-9 Navajo-Federal  
SENE Section 9-39S-25E  
San Juan County, Utah

Gentlemen:

Meridian Oil Inc. requests the approval to drill an unorthodox location in Section 9-39S-25E of San Juan County, Utah. The above referenced location was staked 1850' FNL - 1140' FEL of Section 9.

A lease ownership plat is attached as Exhibit "A". Meridian Oil Inc. owns 75% of the oil and gas leasehold working interest (Lease U-52333) within a 660' radius of the proposed exception location. BWAB Inc. owns the remaining 25% interest in Lease U-52333 and is participating in the drilling of this well. BWAB Inc. has been notified and is in agreement with this location. No other offset owners are required to be notified since the offset acreage is owned by Meridian and BWAB Inc.

This exception location for the 42-9 Navajo-Federal is requested due to topographical reasons as per attached Exhibit "B".

Thank you for your consideration.

Sincerely,



Suzann G. Nelson  
Sr. Operations Technician

Attachments

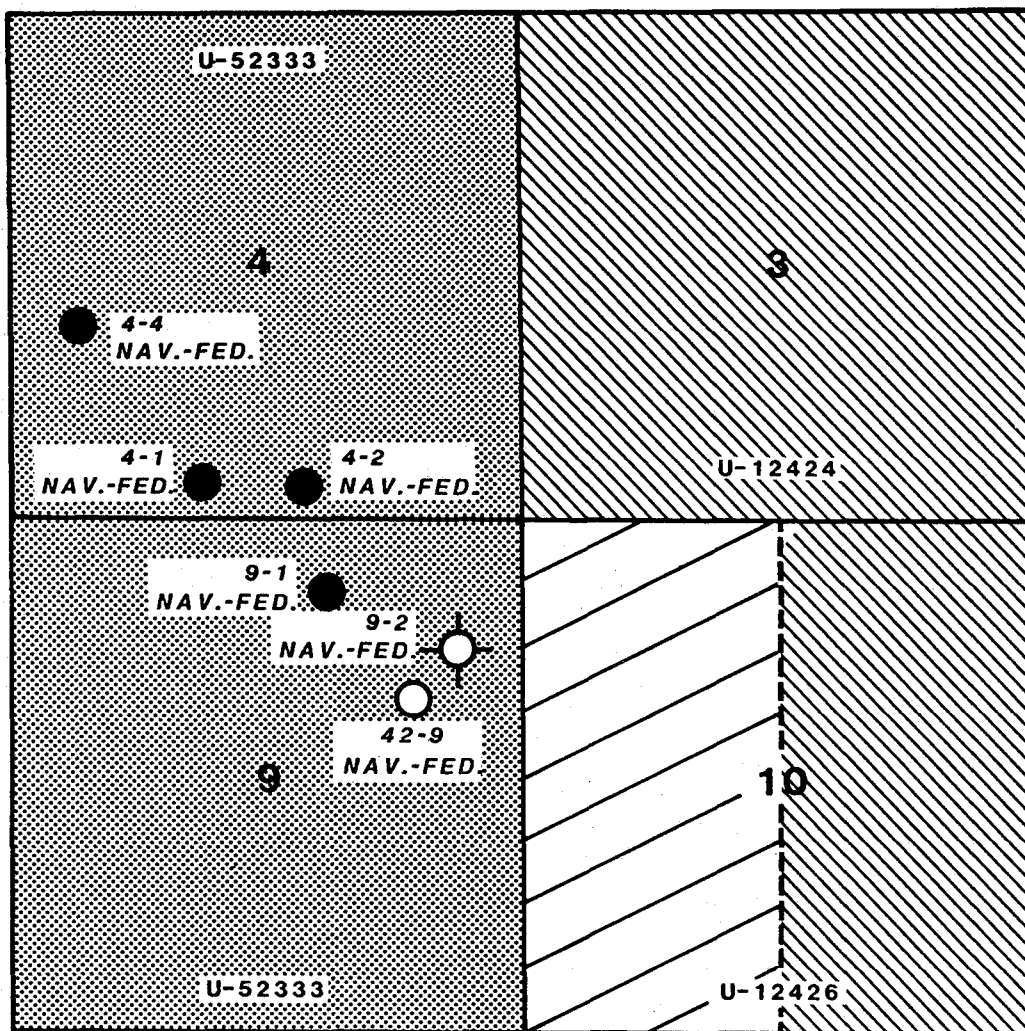
ssn

cc: BWAB Inc. - Denver, CO  
Cindy Crawley, Bill Mitchell - Meridian Oil, Denver District

1175N

# EXHIBIT A

T  
39  
S



R 25 E

## KEY: LEASEHOLD OWNERSHIP



MERIDIAN OIL INC. - 75%, BWAB 25%  
(FEDERAL SERIAL NO. U-52333)



TEXACO INC. (50%), DONALD B. ANDERSON, LTD. (25%),  
CHORNEY OIL COMPANY (25%)  
(FEDERAL SERIAL NO. U-12424)  
(FEDERAL SERIAL NO. U-12426)



TEXACO INC., DONALD B. ANDERSON, LTD., & CHORNEY OIL  
COMPANY, SUBJECT TO FARMOUT OPTION AGREEMENT IN FAVOR  
OF MERIDIAN OIL INC. DATED MAY 10, 1984  
(FEDERAL SERIAL NO U-12426)



PROPOSED LOCATION - MOI #42-9 NAV. FED.  
1850' FNL - 1140' FEL



EXISTING DRY HOLE - MOI #9-2 NAV. FED.  
1320' FNL - 600' FEL



EXISTING WELL - MOI #9-1 NAV. FED.  
770' FNL - 2010' FEL  
(FEDERAL SERIAL NO. U-52333)

**MERIDIAN OIL**

**KIVA FIELD**

**T 39 S, R 25 E**

**SAN JUAN COUNTY, UTAH**

**SCALE: 1" = 2000'**



1191N/0073N/III

OIL AND GAS ORDER NO. 1

MERIDIAN OIL INC.

LEASE NAME: 42-9 Navajo-Federal  
LEASE NO. U-52333  
LOCATION: SENE Section 9-39S-25E  
1850' FNL - 1140' FEL  
San Juan County, Utah  
Kiva Field

A. EIGHT POINT DRILLING PROGRAM

1.& 2. Estimated Tops:

Morrison	Surface	
Entrada	677	
Navajo	866	fresh water
Chinle	1533	
Shinarump	2390	
Cutler	2630	
Hermosa	4517	
Upper Ismay	5468	oil
A Shale	5620	
Lower Ismay	5643	
Desert Creek	5717	oil
Chimney Rock	5793	
Akah	5816	
TD	5845	

3. Pressure Control Equipment:

- a. A 3000 psi WP and 6000 psi test double gate preventer equipped with blind and pipe rams.
- b. BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventor controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

4. Casing program:

Anticipated cement tops will be reported as to depth, not the expected number of sacks. The San Juan Resource Area will be notified 1 day before running casing strings and cement.

Hole Size	Size	Depth	Casing				Cementing Program
			Weight	Grade	Thrd	Cond	
17-1/2	13-3/8	80	48#	H-40	ST&C	New	Redi-Mix to surface.
11	8-5/8	2,000	24#	K-55	ST&C	New	Two stage, DV tool @ 1500' Cement to sfc w/1500 sx "B" Lite (35/65/6) +2% CaCl <sub>2</sub> & 250 sx "B" +2% CaCl <sub>2</sub> .
11	8-5/8	3,300	32#	K-55	ST&C	New	
7-7/8	5-1/2	5,845	15.5#	K-55	LT&C	New	Single stage, top of cement @ 2800'. Caliper log + 40% excess. "B" Lite (35/65/6) + 1/4#/sx Flocele & Class "B" + fluid loss additive.

5. Proposed drilling mud program:

A water base mud system from surface to TD. Maximum anticipated mud weight is 10#/gallon.

A mud logging unit will be on location from 3300' to TD.

6. Testing program:

Lower Desert Creek - Possible  
Upper Ismay - Probable

Logging program:

Cal/GR/DLL/MSFL Base surface casing to TD (GR to surface)  
Cal/GR/Sonic Base surface casing to TD (GR to surface displays)  
Cal/GR/CNL/Lithoden 5200' to TD  
Dipmeter: If Desert Creek indicates productive.

Coring program:

None planned.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. If requested, samples (cuttings, fluids, and/or gases) will be submitted to the District Manager.



7. Anticipated abnormal BHP or BHT:

No abnormal BHP or BHT are expected in this well.

Potentially hazardous conditions anticipated:

No H<sub>2</sub>S has been found, reported or is known to exist at these depths in this area.

8. Anticipated Starting Dates and Notifications of Operations

The operator will contact the San Juan Resource Area at 801-587-2201, 48 hours before beginning any dirt work.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the San Juan Area Manager, a minimum of 24 hours before spudding. A Sundry Notice (Form 3160-5) will be sent within 24 hours after spudding, reporting the spud date and time. The Sundry will be sent to the District Manager. If the spudding is on a weekend or holiday, the Sundry will be submitted on the following regular work day.

In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329 "Monthly Report of Operations," starting with the month in which operations begin and continue each month until the well is physically plugged and abandoned. This report will be sent to the BLM District Office, P. O. Box 970, Moab, Utah 84532.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Resource Area in accordance with requirements of NTL-3A.

If a replacement rig is planned for completion operations, a Sundry Notice (Form 3160-5) to that effect will be filed, for prior approval of the District Manager. All conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergencies, verbal approval can be given by the District Petroleum Engineer.

If the well is successfully completed for production, then the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than 5 business days following the date on which the well is placed on production.

No well abandonment operations will begin without the prior approval of the District Manager. In the case of newly drilled dry holes or failures, and in emergencies, oral approval will be obtained from the District Petroleum Engineer. A "Subsequent Report of Abandonment" (Form 3160-5), will be filed with the District Manager, within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration.

Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the San Juan Area Manager, or the appropriate surface manager.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MMCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The following information will be permanently beaded-on with a welding torch: Fed, well number, location by 1/4 1/4 section, township and range, Lease number.

A first production conference will be scheduled within 15 days after receipt of the first production notice. The San Juan Area Manager will schedule the conference.

Other: A separate rig will be used for completion operations.

The following may be inspected and/or witnessed:

1. The cementing and testing of surface casing.
2. (Dry Hole) Setting and testing of surface casing shoe plug.
3. (Depleted Producer) The setting and testing of plugs across the producing horizon and if applicable, the surface casing shoe plug and/or annulus (casing to formation) squeeze jobs.

Notify the San Juan Resource Area (Mike Wade) one day or on dry hole as soon as possible prior to the above at (801) 587-2201 (Home) (801) 587-2026 or if unable to reach Mike, call Moab District office Greg Noble at (801) 259-6111 (Home) (801) 259-8811.

B. THIRTEEN POINT SURFACE USE PLAN

1. Existing Roads (Yellow)

- a. Location of proposed well in relation to town or other reference point:  
6 miles east of Hatch Trading Post.
- b. Proposed route to location. (See attached Exhibit "1").
- c. Existing and new access shall be maintained in good or better condition.
- d. An encroachment permit will be obtained from the San Juan County Road Dept., (801) 587-2231, ext. 43.

2. Planned Access Roads (Blue)

- a. The maximum total width will be 25 feet.
- b. Maximum grade is 0%.
- c. There will be no turnouts.
- d. Road is centerline flagged.
- e. Road will be drained as needed.
- f. If well is drilled during wet winter conditions, surface materials may be required to avoid maintenance problems.

Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance by the San Juan Area Manager.

The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drill rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road.

The Class III Road Standards which ensure drainage control over the entire road through the use of natural, rolling topography; ditch turnouts; drainage dips; outsloping; crowning; low water crossing; and culverts will be determined at the appropriate field inspection.

3. Location of Existing Wells (1 mile radius)

- a. Existing wells in the area are shown on attached Exhibit "1".

4. Location of Existing and/or Proposed Facilities if Well is Productive

Battery facility is shown on attached Exhibit "4".

All permanent (on site for 6 months or longer) above ground facilities (including pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain 5-State Interagency Committee. All facilities will be painted within 6 months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The color will be Desert Brown.

All flowlines will be buried parallel to existing roads unless authorized otherwise by BLM.

If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the battery.

All loading lines will be placed inside the berm surrounding the tank battery.

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter un or any production facilities. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place before any deliveries. Tests for meter accuracy will be conducted monthly for the first 3 months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the San Juan Area Manager. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

##### 5. Location and Type of Water Supply

All water needed for drilling purposes will be obtained from Benally water well, located NWNE Section 5-39S-25E.

Use of water for this operation will be approved by obtaining a temporary use permit from the Utah State Engineer, (801) 637-1303 and by receiving permission from the landowner or surface management agency to use the land containing the water source.

6. Source of Construction Materials

Native soil materials from drilling location and access trail, which is available, will be used. Any additional materials needed will be hauled in from authorized commercial sources.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

7. Methods for Handling Waste Disposal

The reserve pit will be lined with commercial bentonite sufficient to prevent seepage. At least half of the capacity will be in cut.

Three sides of the reserve pit will be fenced with four strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.

A trash pit will be constructed near the mud tanks and dug at least six feet into solid undisturbed material. It will be totally enclosed with a fine wire mesh before the rig moves in. The road and pad will be kept litter free.

A burning permit is required for burning trash between May 1 and October 31. This can be acquired by contacting the State fire Warden, John Baker, at (801) 587-2705.

Produced waste water will be confined to a lined pit for a period not to exceed 90 days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

8. Ancillary Facilities

Camp facilities will not be required.

9. Well Site Layout

Rig layout is shown on attached Exhibit "9a".

Cuts and fills are shown on attached Exhibit "9b".

The top 6 inches of soil material will be removed from the location and stockpiled on the southwest side of well pad. Topsoil along the access will be reserved in place.

Access to the well pad will be from the northwest.

10. Reclamation:

- a. Immediately on completion of drilling, all trash and debris will be collected from the location and surrounding area. All trash and debris will be disposed of in the trash pit and will then be compacted and buried under a minimum of two feet of compacted soil.
- b. The operator/holder or his contractor will contact the San Juan Resource Area office in Monticello, Utah, (801) 587-2201, 48 hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.
- c. Before any dirt work to restore the location takes place, the reserve pit must be completely dry.
- d. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.
- e. The stockpiled topsoil will be spread evenly over the disturbed area. All disturbed areas will be ripped 8-12 inches deep with the contour.

- f. Water bars will be built as follows to control erosion.

<u>Grade</u>	<u>Spacing</u>
2%	Every 200 feet
2-4%	Every 100 feet
4-5%	Every 75 feet
5+%	Every 50 feet

- g. Seed will be broadcast between October 1 and February 28 with the following prescription. A harrow or similar implement will be dragged over the area to assure seed cover.

<u>3</u>	<u>lbs/acre Indian ricegrass (<i>Oryzopsis hymenoides</i>)</u>
<u>3</u>	<u>lbs/acre Galleta (<i>Hilaria jamesii</i>)</u>
<u>3</u>	<u>lbs/acre crested wheatgrass (<i>Agropyron desertorum</i>)</u>
<u>2</u>	<u>lbs/acre Fourwing saltbush (<i>Atriplex canescens</i>)</u>

- h. After seeding is complete, the stockpiled trees will be scattered evenly over the disturbed areas. The access will be blocked to prevent vehicular access.
- i. The reserve pit and that portion of the location and access road not needed for production or production facilities will be reclaimed as described in the reclamation section. Enough topsoil will be kept to reclaim the remainder of the location at a future date. This remaining stockpile of topsoil will be seeded in place using the prescribed seed mixture.

11. Surface Ownership: Federal  
Mineral Ownership: Federal

12. Other Information

There will be no change from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

The dirt contractor will be provided with an approved copy of the surface use plan.

If subsurface cultural materials are exposed during construction, work in that spot will stop immediately and the San Juan Resource Area Office will be contacted. All people who are in the area will be informed by the operator/holder that they are subject to prosecution for disturbing archaeological sites or picking up artifacts. Salvage or excavation of identified archaeological sites will be done by a BLM approved archaeologist only if damage occurs.

This permit will be valid for a period of one year from the date of approval. After permit termination a new application will be filed for approval for any future operations.

Your contact with the District Office is: Greg Noble  
Office Phone: 801-259-6111 Address: P. O. Box 970, Moab, UT 84532

Resource Area Manager's Address and contacts:  
Address: P. O. Box 7, Monticello, UT 84535

Your contact is: Rich McClure  
Office Phone: 801-587-2201

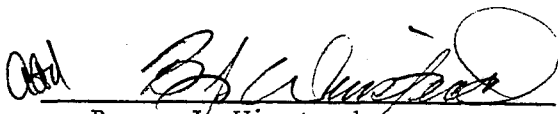
13. Lessee or Operator's Field Representative and Certification

Meridian Oil Inc.  
P. O. Box 1855  
Billings, Montana 59103

1.	Johnny L. Wright, Drilling Supt.	406-256-4175	406-252-2889
2.	Rick Muncrief, Area Drilling Engineer	406-256-4155	406-245-9896
3.	Barry Winstead, Sr. Drilling Engineer	406-256-4030	406-656-7521
4.	John Pulley, Drilling Manager	406-256-4124	406-259-6156

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and, that the work associated with the operations proposed herein will be performed by Meridian Oil Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

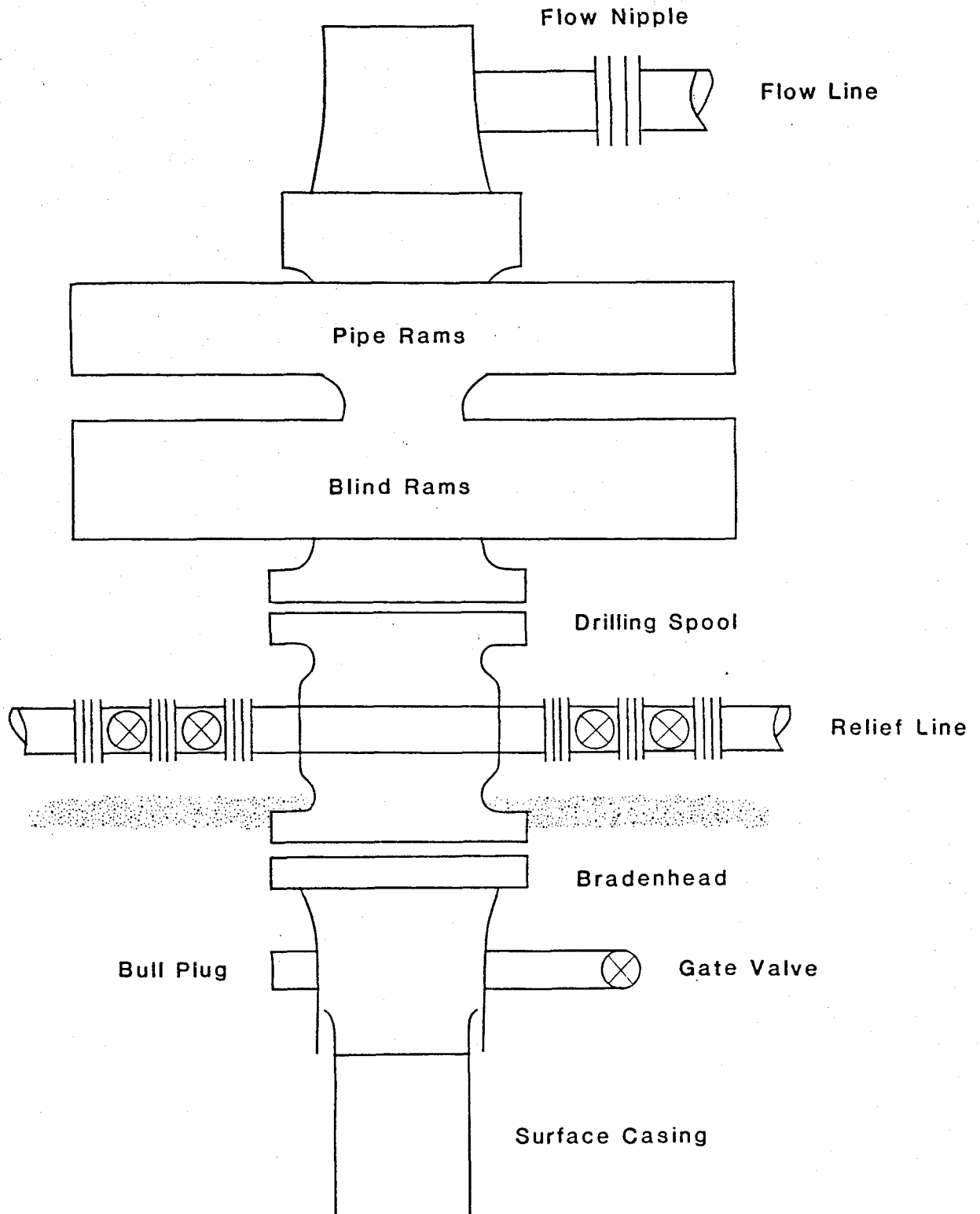
  
Barry J. Winstead  
Sr. Drilling Engineer

  
Date

ssn



## TYPICAL B.O.P. INSTALLATION

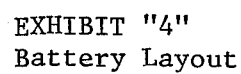


Series 900 Double Gate B.O.P.,  
rated at 3000 psi Working Pressure.

When gas drilling operations begin a Shaffer type 50 or equivalent rotating head is installed on top of the flow nipple and the flow line is converted into a blowie line.



## 42-9 NAVAJO-FEDERAL



WELL PAD PLAN VIEW

42-9 NAVAJO-FEDERAL

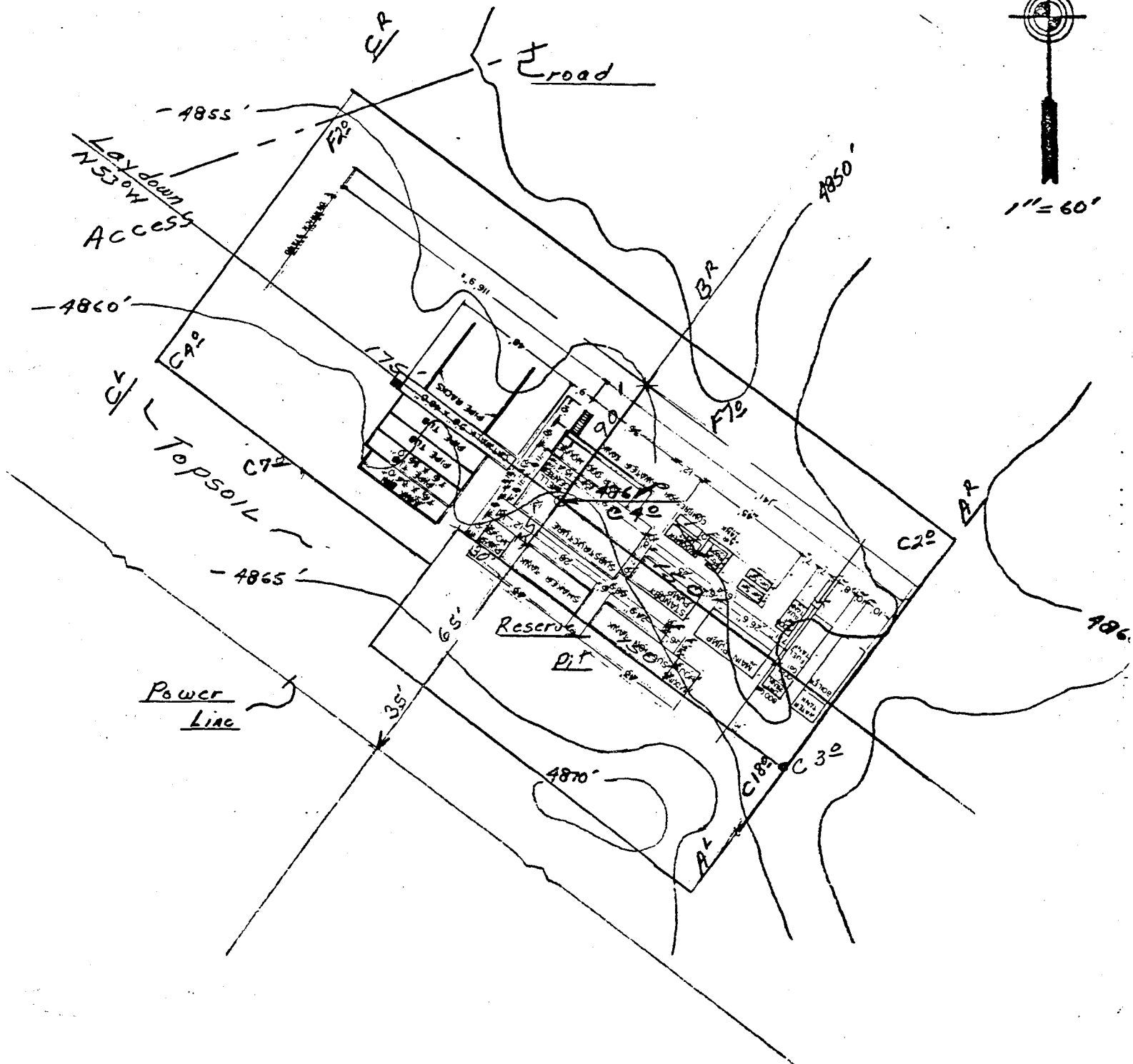



EXHIBIT "9a"  
Rig Layout

# WELL PAD CROSS-SECTION

42-9 NAVAJO-FEDERAL

Cut /////  
Fill 

Scales: 1" = 60' H.  
1" = 30' V.

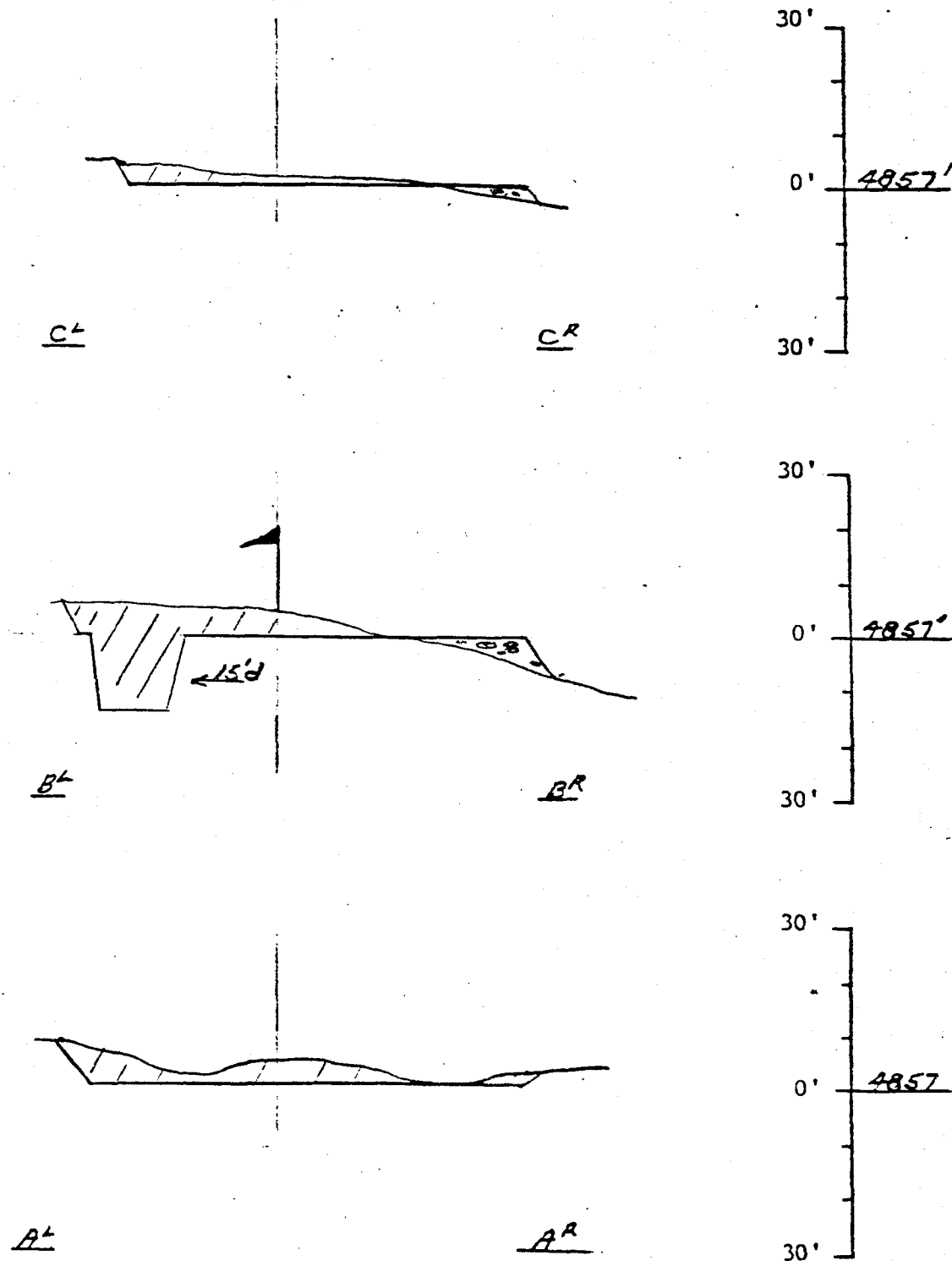


EXHIBIT "9b"  
Cross Section

~~CONFIDENTIAL~~

081412 - Off Copy.

OPERATOR Meridian Oil Inc DATE 4-16-86

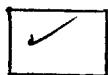
WELL NAME Navajo Fed 42-9

SEC SE NE 9 T 39S R 25E COUNTY San Juan

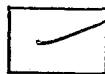
43-037-31263  
API NUMBER

Fed  
TYPE OF LEASE

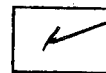
CHECK OFF:



PLAT



BOND



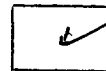
NEAREST  
WELL



LEASE



FIELD



POTASH OR  
OIL SHALE

PROCESSING COMMENTS:

No other well within 920'

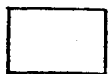
Water permit

Exception Requested

APPROVAL LETTER:

SPACING: ☐ 203 \_\_\_\_\_  
UNIT

☐ 302



\_\_\_\_\_  
CAUSE NO. & DATE

☒ 302.1

STIPULATIONS:

1- Water



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 21, 1986

Meridian Oil Incorporated  
P. O. Box 1855  
Billings, Montana 59103

Gentlemen:

Re: Well Name: Navajo Federal 42-9 - SE NE Sec. 9, T. 39S, R. 25E  
1850' FNL, 1140' FEL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Rule 302.1, Oil and Gas Conservation General Rules, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, Oil and Gas Conservation General Rules.

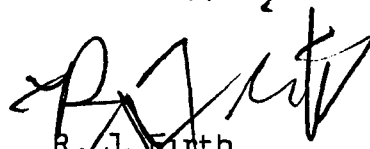
Page 2

Meridian Oil Incorporated  
Well No. Navajo Federal 42-9  
April 21, 1986

5. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at each drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable State and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.
6. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31263.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

as

Enclosures

cc: Branch of Fluid Minerals  
D. R. Nielson

8159T



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☒ GAS WELL ☐ OTHER ☐  
2. NAME OF OPERATOR  
MERIDIAN OIL INC.  
3. ADDRESS OF OPERATOR  
P. O. Box 1855, Billings, MT 59103  
4. LOCATION OF WELL (Report location clearly and in accordance with any State law.  
See also space 17 below.)  
At surface  
SENE (1850' FNL - 1140' FEL)

RECEIVED  
MAY 19 1986

DIVISION OF  
OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.  
U-52333  
6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
--  
7. UNIT AGREEMENT NAME  
--  
8. FARM OR LEASE NAME  
Navajo-Federal  
9. WELL NO.  
42-9  
10. FIELD AND POOL, OR WILDCAT  
Kiva  
11. SEC., T., R., M., OR BLK. AND  
SURVEY OR AREA  
Section 9-39S-25E  
12. COUNTY OR PARISH  
San Juan  
13. STATE  
Utah

14. PERMIT NO.  
43-037-31263  
15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
4857' GL (graded)

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐  
FRACTURE TREAT ☐  
SHOOT OR ACIDIZE ☐  
REPAIR WELL ☐  
(Other) ☐  
PULL OR ALTER CASING ☐  
MULTIPLE COMPLETE ☐  
ABANDON\* ☐  
CHANGE PLANS ☒

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐  
FRACTURE TREATMENT ☐  
SHOOTING OR ACIDIZING ☐  
(Other) ☐  
REPAIRING WELL ☐  
ALTERING CASING ☐  
ABANDONMENT\* ☐

(NOTE: Report results of multiple completion on Well  
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any  
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-

Meridian Oil Inc. has permitted the #42-9 Navajo-Federal well to drill an 11" surface hole to a depth of 3300'. If the salt water flow (est @ 3055') in the DeChelly formation has not been encountered by 3300', Meridian proposes to set the 8-5/8" surface casing off bottom at +1600' and cement by the single-stage method circulating cement to surface. A basket cementing shoe assembly (diagram attached) will be utilized for cementing in this situation on the bottom of the 8-5/8" casing. The proposed method would be used only in the absence of the salt water flow and would protect surface fresh water sands at the alternate setting depth of +1600'. If 8-5/8" surface casing is set off bottom, the 5-1/2" production casing will be set at TD and cemented by the two-stage method with a stage collar placed at +3500'. The proposed second stage TOC would be +1200'. In the event the salt water flow is encountered, surface and production casing will be set and cemented as originally permitted.

18. I hereby certify that the foregoing is true and correct

SIGNED A. Arnold Hall

TITLE Petroleum Engineer

DATE 5/15/86

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

ACCEPTED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE 5-23-86

BY John R. Bay

Federal approval of this action  
is required before commencing  
operations.

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

110707  
SUBMIT IN TRIPLICATE\*  
(Other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-52333
2. NAME OF OPERATOR MERIDIAN OIL INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR P. O. Box 1855, Billings MT 59103		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface SENE (1850' FNL - 1140' FEL)		8. FARM OR LEASE NAME Navajo-Federal
14. PERMIT NO. 43-037-31263		9. WELL NO. 42-9
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4857' GL		10. FIELD AND POOL, OR WILDCAT Kiva
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 9-39S-25E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) \*

Meridian Oil Inc. has permitted the #42-9 Navajo-Federal to run 8-5/8" surface casing inside 11" hole to 3300'. We have elected to change the casing string to 9-5/8" inside 12-1/4" hole.

Verbal approval received from Greg Noble 10/31/86.

CONFIDENTIAL INFORMATION

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature] TITLE Drilling Engineer DATE 10/31/86

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

ACCEPTED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

Federal approval of this action  
is required before commencing  
operations.

\*See Instructions on Reverse Side

DATE: 11-6-86  
BY: [Signature]

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-52333
2. NAME OF OPERATOR MERIDIAN OIL INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR P. O. Box 1855, Billings, MT 59103		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface SENE (1850' FNL - 1140' FEL)		8. FARM OR LEASE NAME Navajo-Federal
14. PERMIT NO. 43-037-31263		9. WELL NO. 42-9
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4868' KB		10. FIELD AND POOL, OR WILDCAT Kiva
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 9-39S-25E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	(Other) Spud Report	<input checked="" type="checkbox"/>
(Other)	<input type="checkbox"/>	(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	
PULL OR ALTER CASING	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>
CHANGE PLANS	<input type="checkbox"/>		

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) \*

Aztec, Rig #301, spudded well @ 11:00 PM 11-1-86. Ran 2 jts 13-3/8" 54.5# K-55 STC R3 casing, set @ 85'. Cement w/95 sx "B".

CONFIDENTIAL INFORMATION

RECEIVED  
NOV 05 1986

DIVISION OF  
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED <u>[Signature]</u>	TITLE <u>Sr. Operations Technician</u>	DATE <u>11/3/86</u>
(This space for Federal or State office use)		
APPROVED BY _____	TITLE _____	DATE _____
CONDITIONS OF APPROVAL, IF ANY:		

\*See Instructions on Reverse Side

**MERIDIAN OIL**

November 7, 1986

111317

BOARD OF OIL, GAS AND MINING  
Department of Natural Resources  
State of Utah  
4241 State Office Building  
Salt Lake City, Utah 84114

RE: Request for Exception Location  
42-9 Navajo Federal  
Section 9, T39S-R25E  
San Juan County, Utah

Gentlemen:

Meridian Oil Inc. is currently drilling the captioned well in the SE/4NE/4 of Section 9, T39S-R25E. Our projected bottom hole location is 1140' FEL, 1850' FNL of Section 9. We request approval to kick the captioned well north to a bottom hole location of 1280' FNL, 1260' FEL, which is an exception location in the NE/4NE/4 of Section 9. The reason for this exception location is geological. Meridian feels that the primary bottom hole objective for the captioned well (1140' FEL, 1850' FEL) is near and may be beyond the edge of the geological feature. If the 42-9 well results in a dry hole, we feel we may be able to directionally drill back onto the mound.

A lease ownership plat is attached as Exhibit "A". Meridian Oil Inc. owns 75% of the oil and gas leasehold working interest (Serial #U-52333) within a 600 foot radius of the proposed exception location. BWAB Incorporated owns the remaining 25% interest in Lease #U-52333 and is participating in the drilling of this well. Thus, BWAB has been notified and is in agreement with this location. No other offset owners are required to be notified since Meridian and BWAB own record title to the leasehold within a 460 foot radius of the proposed well location in accordance with rule 302.1(a)(2) of the Oil and Gas Conservation Rules of the Utah Board of Oil, Gas and Mining.

Therefore, this exception location for a proposed revised bottom hole location for the 42-9 Navajo Federal is requested in order to encounter the best location for ultimate recovery of oil from this leasehold.

Thank you for your consideration.

Very truly yours,

MERIDIAN OIL INC.

*William C. Mitchell*  
William C. Mitchell  
Landman

**APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING**

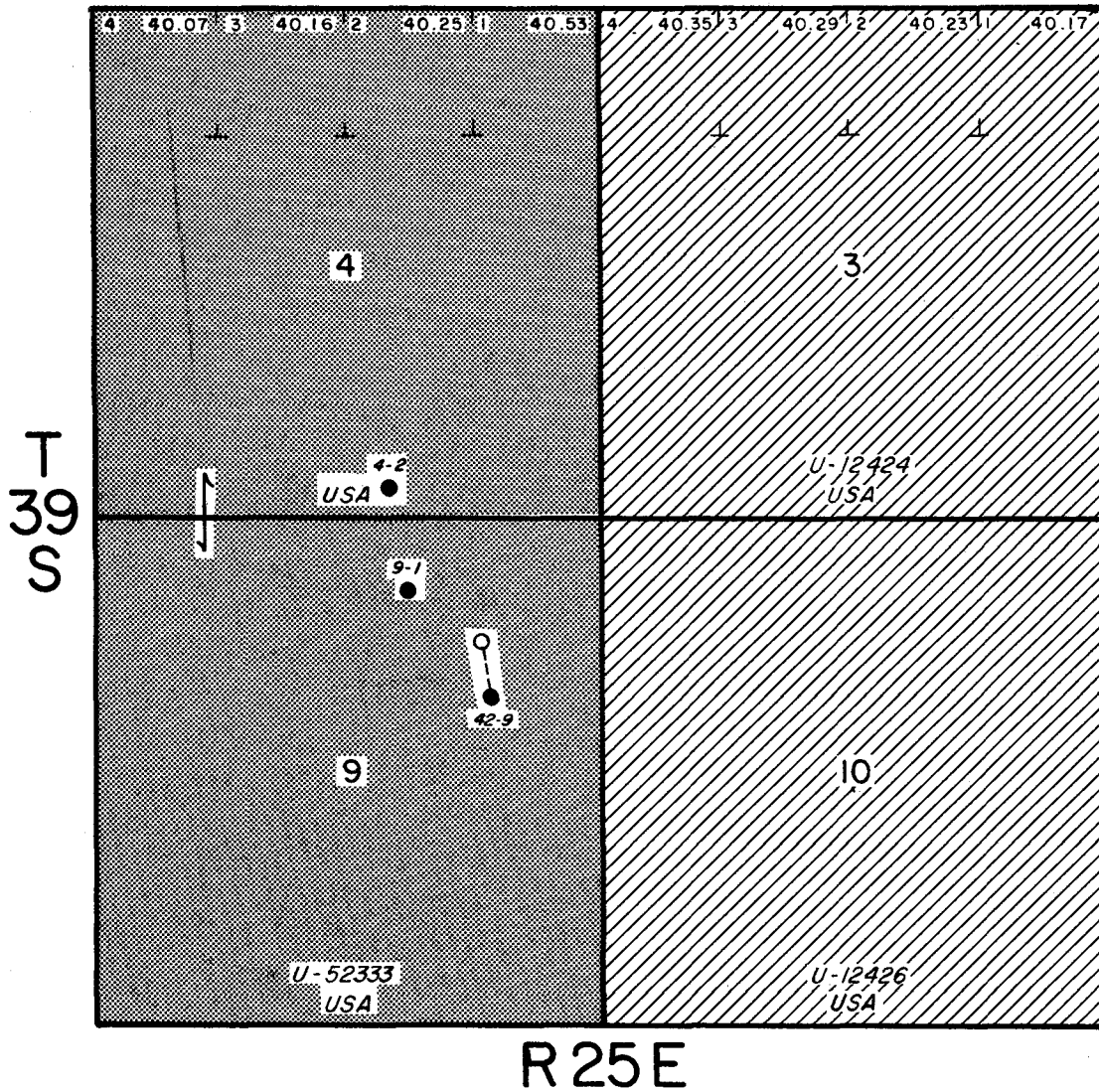
DATE: 11/12/86  
BY: [Signature]

1312L/6

Attachment

cc: Carter Mathies - BWAB

EXHIBIT A



## KEY: LEASEHOLD OWNERSHIP



**Meridian Oil, Inc. (75%) BWAB 1984-1986 joint venture (25%)  
(Federal Serial No. U-52333)**



**Texaco (50%), Donald B. Anderson, Ltd. (25%) Chorney Oil Company (25%)  
(Federal Serial No. U-12426)  
(Federal Serial No. U-12424)**



**Proposed revised bottom hole location - 42-9 Navajo Federal surface loc. 1140' FEL, 1850' FNL, bottom hole loc. 1280' FNL, 1260' FEL**

Navajo Federal #4-2 300' FSL, 2225' FEL  
Navajo Federal #9-1 770' FNL, 2010' FEL  
#42-9 Navajo Federal 1140' FEL, 1850' FNL (Original bottom hole location)

**MERIDIAN** ©

**HAWAJO PROSPECT**  
**T 35 S. R 25 E**  
**San Juan County, Utah**

Scale = 1" = 2000 Feet

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE\*  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> Temporary Abandon		5. LEASE DESIGNATION AND SERIAL NO. U-52333	
2. NAME OF OPERATOR MERIDIAN OIL INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A	
3. ADDRESS OF OPERATOR P. O. Box 1855, Billings, MT 59103		7. UNIT AGREEMENT NAME N/A	
4. LOCATION OF WELL (Report location clearly and in accordance with any State regulations. See also space 17 below.) At surface SENE (1850' FNL - 1140' FEL)		8. FARM OR LEASE NAME Navajo-Federal	
14. PERMIT NO. 43-037-31263		9. WELL NO. 42-9	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4868' KB		10. FIELD AND POOL, OR WILDCAT Kiva	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 9-39S-25E	
		12. COUNTY OR PARISH San Juan	13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

Progress Report-November, 1986 X

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Aztec, Rig #301, spudded well @ 11:00 PM 11-1-86. Ran 2 jts 13-3/8" 54.5# K-55 STC R-3 casing, set @ 85', cemented w/95 sx "B". Drill to 3296', ran 9-5/8" 36# STC casing, set @3285'. Cemented w/1590 sx cement. Bump plug, floats held. Drill to 5612', ran DST #1 (Upper Ismay) 5580' - 5612'. Times: 15-60-90-180. BHT 132°F. No cushion. Pipe recovery: 50' mud. Sample Chamber: 12 psi, 2100 cc total volume, 2100 cc mud. Pressures: FP 51 - 75, 75 - 93; SIP 244 - 225; HP 2611 - 2600. Reached TD 5842' 11/12/86. Logged. RU BJ and pump 175 sx "B" Neat. Set Baker BP @ 3201'. Test BP to 500 psi. Pump 25 sx "B" Neat. Nipple down BOP. Released rig @ 7:30 PM 11-14-86. Temporary Abandon 11-14-86.

~~CONFIDENTIAL INFORMATION~~

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature]

TITLE Sr. Operations Technician

DATE 12/11/86

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE\*

(See other instructions on reverse side)

State of Utah  
Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

U-52333

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

N/A

122414

7. UNIT AGREEMENT NAME

N/A

8. FARM OR LEASE NAME

Navajo-Federal

9. WELL NO.

42-9

10. FIELD AND POOL, OR WILDCAT

Kiva

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Section 9-39S-25E

12. COUNTY OR PARISH

San Juan

13. STATE

Utah

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other Temporary Abandon

b. TYPE OF COMPLETION:

NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR

MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR

P. O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*

At surface SENE (1850' FNL - 1140' FEL)

At top prod. interval reported below N/A

At total depth Same

14. PERMIT NO.

43-037-31263

DATE ISSUED

4-21-86

15. DATE SPUDDED

11-1-86

16. DATE T.D. REACHED

11-12-86

17. DATE COMPL. (Ready to prod.)

11-14-86 (TA)

18. ELEVATIONS (DF. RKB, RT, GR, ETC.)\*

4857' GL

19. ELEV. CASINGHEAD

4868' KB

20. TOTAL DEPTH, MD & TVD

5842'

21. PLUG, BACK T.D., MD & TVD

N/A

22. IF MULTIPLE COMPL., HOW MANY\*

N/A

23. INTERVALS DRILLED BY

ROTARY TOOLS

CABLE TOOLS

X

24. PRODUCING INTERVAL(S). OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

N/A

25. WAS DIRECTIONAL SURVEY MADE

Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

DLL/MSFL, BHC/sonic, FDC/Neutron

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8	54.5#	85'	17-1/2	95 SX	None
9-5/8	36#	3285'	12-1/4	1590 SX	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
N/A				N/A		

31. PERFORATION RECORD (Interval, size and number)

N/A

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
N/A	

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)					WELL STATUS (Producing or shut-in)	
N/A								
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO	
			→					
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)		
		→						

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

TITLE Sr. Drilling Engineer

DATE 12/11/86

\*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
U. Ismay	5580'	5612'	DST #1 . Times: 15-60-90-180. BHT 132°F. No cushion. Pipe rcvry: 50' mud. Sample chamber: 12 psi, 2100 cc total volume, 2100 cc mud. Pressures: FP 51-75, 75-93; SIP 244-225; HP 2611-2600.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
Hermosa	4501'	
U. Ismay	5474'	
U. Ismay Ø	5592'	
"A" Shale	5618'	
L. Ismay	5635'	
Gothic	5690'	
Desert Creek	5710'	
Chimney Rock	5790'	
Akah	5810'	

CONFIDENTIAL INFORMATION



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIP  
(Other instruction  
verse side)

Form approved. *U.S.*  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

TA

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER Temporary Abandoned		5. LEASE DESIGNATION AND SERIAL NO. U-52333
2. NAME OF OPERATOR MERIDIAN OIL INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A 032610
3. ADDRESS OF OPERATOR P. O. Box 1855		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface SENE (1850' FNL - 1140' FEL)		8. FARM OR LEASE NAME Navajo-Federal
14. PERMIT NO. 43-037-31263		9. WELL NO. 42-9
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4868' KB		10. FIELD AND POOL, OR WILDCAT Kiva
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 9-39S-25E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	MULTIPLE COMPLETE	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	ABANDON*	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>

WATER SHUT-OFF	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
FRACTURE TREATMENT	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
SHOOTING OR ACIDIZING	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>

(Other) Test as a Water Source Well ☒

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

The subject well was temporarily abandoned 11-14-86, with 9-5/8" casing cemented from 3285' to surface. We plan to re-enter the well and test the Cutler Sandstone as a water source for a Kiva Field waterflood. CBL, TDT and GRS logs will be run through casing to identify water zones. The specific intervals to be perforated will be chosen from these logs. We anticipate having to perforate 2 - 3,50' zones with 4 jspf, and stimulate with 60 gal/ft 15% Hcl acid. Each zone will be evaluated separately with a SITP, flow rate and FTP, and water sample. Finally, the zones will be commingled and tested together. The well will then be SI pending regulatory approval of plans to flood the field.

RECEIVED  
MAR 13 1987

DIVISION OF  
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED *M. Stadel*

TITLE Sr. Staff Engineer

DATE 3/11/87

(This space for Federal or State office use)

APPROVED BY  
CONDITIONS OF APPROVAL, IF ANY:

TITLE

ACCEPTED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE 3-20-87

BY: *John R. Day*

Federal approval of this action  
is required before commencing  
operations.

\*See Instructions on Reverse Side

MERIDIAN OIL

RECEIVED  
APR 06 1987

DIVISION OF  
OIL, GAS & MINING

TRANSMITTAL LETTER

RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

~~CONFIDENTIAL~~

TO: Utah Dept. of Natural Resources  
Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
Attn: Cynthia Brandt

FROM: C. L. Crawley  
Name  
Sr. Staff Geologist  
Title  
DATE: April 3, 1987  
VIA: Mail

RE: All information pertains to the Navajo Federal 42-9

QUANTITY	DESCRIPTION
1	✓ Cyberscan -- Run 1
1	✓ Natural Gamma Ray Spectrometry Log
1	✓ Collar Log With Perforating Record
1	✓ Cement Bond Log With VDL/GR/CCL
1	✓ Thermal Decay Time Log

INSTRUCTIONS: Please acknowledge receipt promptly by signing and returning the copy.

RECEIVED BY: Judy Carney DATE: 4-6-87

REMARKS: All information pertains to the Navajo Federal 42-9

RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

MERIDIAN OIL

**RECEIVED**  
APR 14 1987

DIVISION OF  
OIL, GAS & MINING

TRANSMITTAL LETTER

RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

TO: Utah Dept. of Natural Resources FROM: C. L. Crawley  
Division of Oil, Gas and Mining Name  
355 W. North Temple Sr. Staff Geologist  
3 Triad Center, Suite 350 Title  
Salt Lake City, Utah 84180-1203 DATE: April 10, 1987  
Attn: Cynthia Brandt VIA: Mail

RE: All information pertains to the Navajo Federal 42-9

QUANTITY	DESCRIPTION
<u>1</u>	<u>Collar Log With Perforating Record-Run 3</u>
<u>1</u>	<u>Collar Log With Perforating Record-Run 4</u>

INSTRUCTIONS: Please acknowledge receipt promptly by signing and returning the copy.

RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

REMARKS : All information pertains to the Navajo Federal 42-9

RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

MERIDIAN OIL

May 19, 1987

RECEIVED  
MAY 22 1987

Stan Green  
Directing Engineer  
Division of Water Rights  
1636 W. North Temple  
Salt Lake City, Utah 84116-3156

DIVISION OF  
OIL, GAS & MINING

060953

43-037-31063

Re: 42-9 Navajo Federal  
Section 9, T39S, R25E  
San Juan County, Utah

~~CONFIDENTIAL~~  
D.G.M.

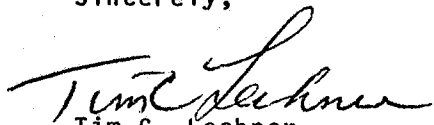
Dear Stan:

As we have previously discussed, the Navajo Federal 42-9 is currently being converted to a water source well. Water produced from the subject well is to be utilized for the proposed Kiva Field Waterflood which will require an injection volume of approximately 7000 BWP. The Cutler sand has been completed and pump tested as outlined in the attached completion summary. Based on this data, the maximum deliverability of the Cutler sand is approximately 2150 BWP.

Approval is requested to perforate and test the Wingate sand from 1300' to 1500'. The Resistivity log from the Navajo Federal 21-9 (most recent offset) has been attached. Depth correlation would be made with Gamma Ray log when perforating the Navajo Federal 42-9. Based on log calculations, the apparent salinity of the Wingate formation water is 13,000 ppm. Lab analysis of the Wingate formation water would be made after completion to confirm the salinity calculations.

If you have any questions or require additional information please contact me at (406) 256-4121.

Sincerely,



Tim C. Lechner  
Regional Production Engineer

TCL/dkc/0717S

Enclosure

cc: KWH  
TWD  
DAS  
J. Baza ✓  
File(s)

COMPLETION SUMMARY  
42-9 Navajo Federal  
San Juan County, Utah

~~CONFIDENTIAL~~  
O.G.M.

PERFORATED INTERVAL	DATE	DESCRIPTION
3106'-3093', 3089'-3085', 3076'-3056'	3/31/87	Perforate with 4 HPF. Swab well. Recovered 32.7 bbl. water in one hour. Final fluid level at SN (2841').
	4/01/87	Acidize with 2500 gal. 15% HCl + additives in three stages. Divert between each stage with 1-1/2#/gal. rock salt. Swab well. Recovered 72.9 bbl. water in 1-1/2 hours.
2581'-2601', 2678'-2696', 2836'-2846'	4/02/87	Perf with 4 HPF. Swab well. Recovered 32.8 bbl. water in one hour. Final fluid level = 500' f/surface.
	4/03/87	Spot 900 gal. 15% HCl across perfs. Acidize with 1760 gal. 15% HCl + additives in three stages. Divert between each stage with 1-1/2#/gal. rock salt. Swab well. Recovered 187 bbl. water in 6-1/2 hours.
2378'-2418'	4/04/87	Perf with 4 HPF. Swab well. Recovered 26 bbl. water in one hour. Final fluid level at SN (+ 2260').
	4/06/87	Spot 21 bbl. acid over perfs. Acidize with 1500 gal. 15% HCl + additives in two stages. Divert between each stage 2#/gal. rock salt. Swab well. Recovered 26.7 bbl. water in one hour. Final fluid level 1900' with SN at 2261'.
2174'-2184', 2205'-2225'	4/07/87	Perf with 4 SPF.
	4/08/87	Acidize with 2400 gal. 15% HCl + additives in three stages. Divert between each stage with 1-1/2#/gal. rock salt. Flowed 45 bbl. water in 5 hours.
2442'-2492'	4/09/87	Perf with 4 SPF. Attempt to acidize. Had communication with perforations at 2378'-2418'.

PERFORATED INTERVAL	DATE	DESCRIPTION
3056'-3076', 3084'-3089', 3093'-3106'	4/12/87	Acidize with 4000 gal. 15% HCl + additives in four stages. Divert between each stage with 2#/gal. rock salt. Swab well. Recovered 61.8 bbl. water in one hour.
All Perfs	4/24/87	Pump test with submersible pump. Stabilized rate = <u>+</u> 2040 bbl. water per day. Pump landed at 3071'.
3056'-3076', 3084'-3089', 3093'-3106'	5/06/87	Fracture with 2000# - 100 mesh sand, 27,000# - 20-40 mesh sand, 30,660 gal. frac fluid. Average injection rate = 22 bbl/min. Max. treating pressure = 3750 psi, ISIP = 2440 psi.
All Prefs	5/08/87	Pump test with submersible pump. Stabilized rate = <u>+</u> 2150 bbl. water per day.
	5/09/87	Swab well. Packer set at 3003' - recovered 73.5 bbl. water in 2-1/2 hours.
2678'-2696'	5/16/87	Acidize with 2000 gal. 15% HCl + additives in two stages. Divert between stages with 7/8" 1.1 sp. gr. ball sealers. Swab well. Recovered 98.5 bbl. water in two hours.

**CONFIDENTIAL**  
O.G.M.

EXHIBIT "B"

Topographic map showing contour lines, elevation points, and labels. Key features include:

- Grid System:** A grid of numbers (e.g., 4745T, 4756T, 4751T, 4735T, 4719, 4709, 4782T, 4692T, 4735T, 4758T, 46475T, 4631T, 4929T, 4925T, 4922T, 4921T, 4920T, 4919T, 4918T, 4917T, 4916T, 4915T, 4914T, 4913T, 4912T, 4911T, 4910T, 4909T, 4908T, 4907T, 4906T, 4905T, 4904T, 4903T, 4902T, 4901T, 4900T, 4899T, 4898T, 4897T, 4896T, 4895T, 4894T, 4893T, 4892T, 4891T, 4890T, 4889T, 4888T, 4887T, 4886T, 4885T, 4884T, 4883T, 4882T, 4881T, 4880T, 4879T, 4878T, 4877T, 4876T, 4875T, 4874T, 4873T, 4872T, 4871T, 4870T, 4869T, 4868T, 4867T, 4866T, 4865T, 4864T, 4863T, 4862T, 4861T, 4860T, 4859T, 4858T, 4857T, 4856T, 4855T, 4854T, 4853T, 4852T, 4851T, 4850T, 4849T, 4848T, 4847T, 4846T, 4845T, 4844T, 4843T, 4842T, 4841T, 4840T, 4839T, 4838T, 4837T, 4836T, 4835T, 4834T, 4833T, 4832T, 4831T, 4830T, 4829T, 4828T, 4827T, 4826T, 4825T, 4824T, 4823T, 4822T, 4821T, 4820T, 4819T, 4818T, 4817T, 4816T, 4815T, 4814T, 4813T, 4812T, 4811T, 4810T, 4809T, 4808T, 4807T, 4806T, 4805T, 4804T, 4803T, 4802T, 4801T, 4800T, 4799T, 4798T, 4797T, 4796T, 4795T, 4794T, 4793T, 4792T, 4791T, 4790T, 4789T, 4788T, 4787T, 4786T, 4785T, 4784T, 4783T, 4782T, 4781T, 4780T, 4779T, 4778T, 4777T, 4776T, 4775T, 4774T, 4773T, 4772T, 4771T, 4770T, 4769T, 4768T, 4767T, 4766T, 4765T, 4764T, 4763T, 4762T, 4761T, 4760T, 4759T, 4758T, 4757T, 4756T, 4755T, 4754T, 4753T, 4752T, 4751T, 4750T, 4749T, 4748T, 4747T, 4746T, 4745T, 4744T, 4743T, 4742T, 4741T, 4740T, 4739T, 4738T, 4737T, 4736T, 4735T, 4734T, 4733T, 4732T, 4731T, 4730T, 4729T, 4728T, 4727T, 4726T, 4725T, 4724T, 4723T, 4722T, 4721T, 4720T, 4719T, 4718T, 4717T, 4716T, 4715T, 4714T, 4713T, 4712T, 4711T, 4710T, 4709T, 4708T, 4707T, 4706T, 4705T, 4704T, 4703T, 4702T, 4701T, 4700T, 4699T, 4698T, 4697T, 4696T, 4695T, 4694T, 4693T, 4692T, 4691T, 4690T, 4689T, 4688T, 4687T, 4686T, 4685T, 4684T, 4683T, 4682T, 4681T, 4680T, 4679T, 4678T, 4677T, 4676T, 4675T, 4674T, 4673T, 4672T, 4671T, 4670T, 4669T, 4668T, 4667T, 4666T, 4665T, 4664T, 4663T, 4662T, 4661T, 4660T, 4659T, 4658T, 4657T, 4656T, 4655T, 4654T, 4653T, 4652T, 4651T, 4650T, 4649T, 4648T, 4647T, 4646T, 4645T, 4644T, 4643T, 4642T, 4641T, 4640T, 4639T, 4638T, 4637T, 4636T, 4635T, 4634T, 4633T, 4632T, 4631T, 4630T, 4629T, 4628T, 4627T, 4626T, 4625T, 4624T, 4623T, 4622T, 4621T, 4620T, 4619T, 4618T, 4617T, 4616T, 4615T, 4614T, 4613T, 4612T, 4611T, 4610T, 4609T, 4608T, 4607T, 4606T, 4605T, 4604T, 4603T, 4602T, 4601T, 4600T, 4599T, 4598T, 4597T, 4596T, 4595T, 4594T, 4593T, 4592T, 4591T, 4590T, 4589T, 4588T, 4587T, 4586T, 4585T, 4584T, 4583T, 4582T, 4581T, 4580T, 4579T, 4578T, 4577T, 4576T, 4575T, 4574T, 4573T, 4572T, 4571T, 4570T, 4569T, 4568T, 4567T, 4566T, 4565T, 4564T, 4563T, 4562T, 4561T, 4560T, 4559T, 4558T, 4557T, 4556T, 4555T, 4554T, 4553T, 4552T, 4551T, 4550T, 4549T, 4548T, 4547T, 4546T, 4545T, 4544T, 4543T, 4542T, 4541T, 4540T, 4539T, 4538T, 4537T, 4536T, 4535T, 4534T, 4533T, 4532T, 4531T, 4530T, 4529T, 4528T, 4527T, 4526T, 4525T, 4524T, 4523T, 4522T, 4521T, 4520T, 4519T, 4518T, 4517T, 4516T, 4515T, 4514T, 4513T, 4512T, 4511T, 4510T, 4509T, 4508T, 4507T, 4506T, 4505T, 4504T, 4503T, 4502T, 4501T, 4500T, 4499T, 4498T, 4497T, 4496T, 4495T, 4494T, 4493T, 4492T, 4491T, 4490T, 4489T, 4488T, 4487T, 4486T, 4485T, 4484T, 4483T, 4482T, 4481T, 4480T, 4479T, 4478T, 4477T, 4476T, 4475T, 4474T, 4473T, 4472T, 4471T, 4470T, 4469T, 4468T, 4467T, 4466T, 4465T, 4464T, 4463T, 4462T, 4461T, 4460T, 4459T, 4458T, 4457T, 4456T, 4455T, 4454T, 4453T, 4452T, 4451T, 4450T, 4449T, 4448T, 4447T, 4446T, 4445T, 4444T, 4443T, 4442T, 4441T, 4440T, 4439T, 4438T, 4437T, 4436T, 4435T, 4434T, 4433T, 4432T, 4431T, 4430T, 4429T, 4428T, 4427T, 4426T, 4425T, 4424T, 4423T, 4422T, 4421T, 4420T, 4419T, 4418T, 4417T, 4416T, 4415T, 4414T, 4413T, 4412T, 4411T, 4410T, 4409T, 4408T, 4407T, 4406T, 4405T, 4404T, 4403T, 4402T, 4401T, 4400T, 4399T, 4398T, 4397T, 4396T, 4395T, 4394T, 4393T, 4392T, 4391T, 4390T, 4389T, 4388T, 4387T, 4386T, 4385T, 4384T, 4383T, 4382T, 4381T, 4380T, 4379T, 4378T, 4377T, 4376T, 4375T, 4374T, 4373T, 4372T, 4371T, 4370T, 4369T, 4368T, 4367T, 43

**THE**

The image displays a stratigraphic column from a geological well log. The left side of the column shows depth in feet, ranging from 0 to 500. The right side of the column is divided into several sections, each with a specific lithological description and depth range. The sections are as follows:

- 0 to 100 feet:** This section is labeled "SANDSTONE" and "SANDSTONE" and contains a detailed description of the sandstone formation, including its composition and texture.
- 100 to 200 feet:** This section is labeled "SANDSTONE" and "SANDSTONE" and contains a detailed description of the sandstone formation, including its composition and texture.
- 200 to 300 feet:** This section is labeled "SANDSTONE" and "SANDSTONE" and contains a detailed description of the sandstone formation, including its composition and texture.
- 300 to 400 feet:** This section is labeled "SANDSTONE" and "SANDSTONE" and contains a detailed description of the sandstone formation, including its composition and texture.
- 400 to 500 feet:** This section is labeled "SANDSTONE" and "SANDSTONE" and contains a detailed description of the sandstone formation, including its composition and texture.

The column is a detailed representation of the geological formations encountered during the drilling process, providing valuable information for geological and engineering purposes.



800

700

600

500

400

300

200

WATER TOP

100

0

CHURCH TOP

1500

1600

1700

1800

1900

2000

$$S_w = 7.2 \text{ ft}$$

$$R_w = 5.0 \text{ ft}^2$$

$$R_w = (11)^2 (2.5) (1.4)$$

$$R_w = 2.5 \text{ ft}$$

$$\text{SALINITY} = 2.5 \text{ ppm}$$

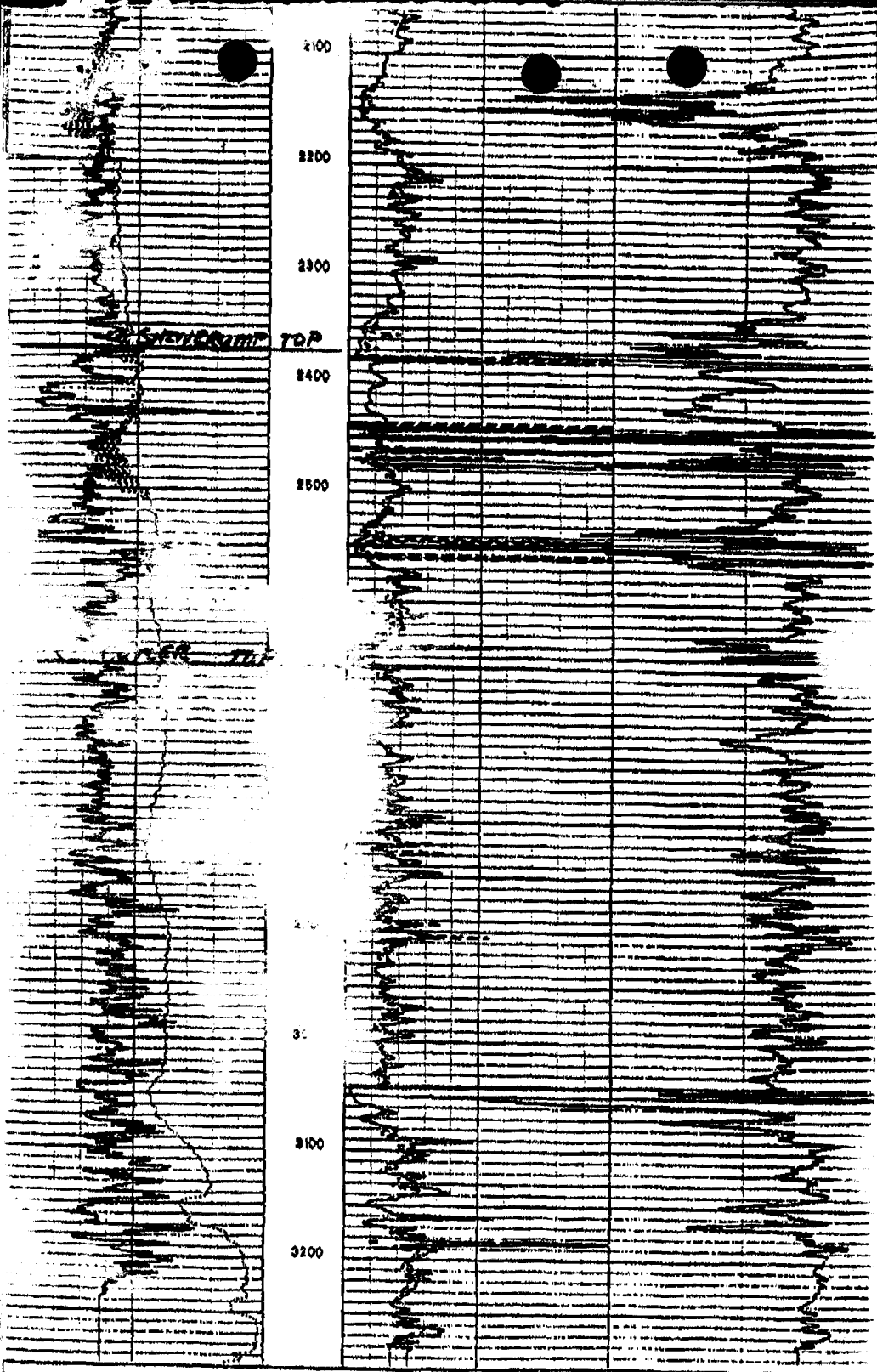
$$S_w = 7.2 \text{ ft}$$

$$R_w = (11)^2 (2.5) (1.4)$$

$$R_w = 0.596 \text{ ft}$$

$$\text{SALINITY} = 5 \text{ ppm}$$

(WATER)



FILE 4

SP (MY 1)		ILD (OHMM)	
000000	200000	0.00000	100.000
GR (QAPI)		SFLA(OHMM)	
000000	200000	0.00000	100.000
		CLD(MMMO)	
000000	200000	400.000	0.00000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> Water Source Well		5. LEASE DESIGNATION AND SERIAL NO. U-52333	
2. NAME OF OPERATOR MERIDIAN OIL INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A 070728	
3. ADDRESS OF OPERATOR P. O. Box 1855, Billings, MT 59103		7. UNIT AGREEMENT NAME N/A	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface SENE (1850' FNL - 1140' FEL)		8. FARM OR LEASE NAME Navajo-Federal	
14. PERMIT NO. 43-047-31263		9. WELL NO. 42-9	
15. ELEVATIONS (Show whether DF, RT, OR, etc.) 4868' KB		10. FIELD AND POOL, OR WILDCAT Kiva	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 9-39S-25E	
		12. COUNTY OR PARISH San Juan	13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input checked="" type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) <input type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Permission is requested to commingle water from the Wingate and Cutler Sands which produce 4000 BWPD and 2150 BWPD respectively. The combined water volume (6150 BWPD) would be adequate for the proposed Kiva Waterflood. Wingate and Cutler water analyses are attached for your information.

RECEIVED  
JUN 15 1987

DIVISION OF  
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED Kyle W. Hudson TITLE Petroleum Engineer DATE 6/10/87

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY: \_\_\_\_\_

Federal approval of this action  
is required before commencing  
operations.

\*See Instructions on Reverse Side

ACCEPTED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 6-29-87  
BY: John R. Bay

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



**O-TECH, INC.**

**Oilfield Chemical Technology**

Meridian Oil Company

Cutler 100%

Sample Date:

Lab ID:

P.O. Box 31272 • Billings, Montana 59107 • Phone (406) 245-4341

Cations	mg/l	meq/l	Anions	mg/l	meq/l
Potassium	ND	ND	Sulfate	1640.00	34.14
Sodium	7182.00	312.40	Chloride	11620.0	327.75
Calcium	1188.00	59.28	Carbonate	0	0
Magnesium	104.00	8.62	Bicarbonate	58.00	0.95
Total Iron	41.00	1.47	Hydroxide	0	0
Diss. Iron	ND	ND	Silica	ND	ND
Barium	ND	ND		0	0
Strontium	ND	ND		0	0
Sum +	8515.0	381.70	Sum -	13318	362.80

**Solids**

TDS @ 180C	8870	mg/l
Total Solids, Calc less CO <sub>3</sub>	21800	mg/l
→ Total Solids, Calc	21800	mg/l
Total Solids, NaCl equiv	20900	mg/l
Suspended Solids, Total	ND	
Suspended Solids, Solvent	ND	
Suspended Solids, acid soluble	ND	

**System Conditions**

System Operation	Normal
Sample Temperature, °F	75.00
Sample pH	7.10

**Dissolved Gassed**

Dissolved Oxygen	ND	
Carbon Dioxide	2	mg/l
Hydrogen Sulfide	0	mg/l

**Other Properties**

Specific Gravity, measured	1.0069	
Specific Gravity, calculated	1.0161	
Resistivity, measured	ND	
Chloride as NaCl	19200	mg/l
Resistivity calculated from NaCl	ND	
Hardness as calcium carbonate	10	mg/l
Conductivity	ND	
Oil & Grease	ND	

**Microbiological**

Sulfate Reducing Bacteria	ND
Aerobic Bacteria	below 1000 colonies/ml

Approved:

Serving The Petroleum Industry Thru Applied Technology

Richard E. Johnson

Wingate 100%

Sample Date:

Lab ID:

Cations	mg/l	meq/l	Anions	mg/l	meq/l
Potassium	ND	ND	Sulfate	541.00	11.26
Sodium	2858.00	124.32	Chloride	4500.00	126.93
Calcium	288.00	14.37	Carbonate	0	0
Magnesium	55.00	4.56	Bicarbonate	284.00	4.64
Total Iron	55.00	1.97	Hydroxide	0	0
Diss. Iron	ND	ND	Silica	ND	ND
Barium	ND	ND		0	0
Strontium	ND	ND		0	0
Sum +	3256.0	145.10	Sum -	5325.0	142.80

## Solids

TDS @ 180C	3460	mg/l
Total Solids, Calc less CO <sub>3</sub>	8440	mg/l
Total Solids, Calc	8580	mg/l
Total Solids, NaCl equiv	8070	mg/l
Suspended Solids, Total	ND	
Suspended Solids, Solvent	ND	
Suspended Solids, acid soluble	ND	

## System Conditions

System Operation	Normal
Sample Temperature, °F	75.00
Sample pH	6.60

## Dissolved Gassed

Dissolved Oxygen	ND	
Carbon Dioxide	2	mg/l
Hydrogen Sulfide	0	mg/l

## Other Properties

Specific Gravity, measured	1.0028	
Specific Gravity, calculated	1.0067	
Resistivity, measured	ND	
Chloride as NaCl	7420	mg/l
Resistivity calculated from NaCl	ND	
Hardness as calcium carbonate	10	mg/l
Conductivity	ND	
Oil & Grease	ND	

## Microbiological

Sulfate Reducing Bacteria	ND	
Aerobic Bacteria	below 1000	colonies/ml

Approved:

Richard E. Johnson

MERIDIAN OIL

RECEIVED  
JUN 22 1987

DIVISION OF  
OIL, GAS & MINING

TRANSMITTAL LETTER  
RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

TO: Utah Dept. of Natural Resources  
Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
Attn: ~~Cynthia Brandt~~

FROM: C. L. Crawley

Name

Sr. Staff Geologist

Title

DATE: June 10, 1987

VIA: Mail

QUANTITY	DESCRIPTION
	<u>Navajo Federal 42-9</u>
<u>1</u>	<u>Perforating Record</u> <u>Runs 5, 6, 7</u>
<u>1</u>	<u>Perforating Depth Control Record-Runs 5, X, X</u>

*VC DOB A*

CONFIDENTIAL

INSTRUCTIONS: Please acknowledge receipt promptly by signing and returning the copy.

RECEIVED BY: Vicky Carney

DATE: 6-22-87

RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

# TOOKE

410 17th Street • Suite 1850 • Denver, CO 80202 • Ph. (303) 573-1295

MERIDIAN OIL, INC.  
42-9 Navajo Federal  
1140' FEL, 1850' FNL  
Sec. 9, T39S, R25E  
San Juan County, Utah

WELLSITE GEOLOGIST

Ted Gerhardy  
Denver, Colorado

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I. WELL DATA

A. OPERATOR

Meridian Oil, Inc.  
5613 DTC Parkway  
Englewood, Colorado 80111  
(303) 694-4100

B. WELL NAME AND LOCATION

#42-9 Navajo Federal  
Sec. 9, T39S, R26E  
1140' FEL, 1850' FNL  
San Juan County, Utah

C. FIELD

Kiva Field

D. WELL STATUS

Plugged and abandoned

E. ELEVATIONS

Kelly Bushing: 4870'  
Ground Elevation: 4857'

F. TOTAL DEPTH

Driller:: 5842' SLM: 5842'  
Logger: 5842'  
E-Logs: 5842'

G. SPUD DATE

November 1, 1986

H. COMPLETED DRILLING DATE

November 12, 1986 at 10:30 P.M. (MST)

II. ONSITE PERSONNEL AND SERVICE COMPANIES

A. COMPANY GEOLOGIST

Cindy L. Crawley  
Meridian Oil, Inc.  
5613 DTC Parkway  
Englewood, Colorado 80111  
(303) 930-9330

B. WELLSITE GEOLOGIST

Ted Gerhardy  
1069 Pearl Street, #2  
Denver, Colorado 80203  
(303) 860-1358

C. COMPANY REPRESENTATIVES

Charlie Byerly  
Meridian Oil, Inc.  
175 North 27th St.  
Billings, Montana 59101  
(406) 256-4174

D. MUD LOGGING COMPANY

Tooke Engineering  
P.O. Box 3200  
Casper, Wyoming 82602  
(307) 265-1630

Loggers: Ted Gerhardy  
Dan Griggs

E. CONTRACTOR

Aztec Drilling, Rig 301  
Aztec, New Mexico

Tool Pusher: Chuck Hesser

F. MUD COMPANY

Newpark Drilling Fluids  
Farmington, New Mexico

Engineer: Bill Lloyd (Meridian Oil, Inc.)

G. OPEN HOLE WIRELINE COMPANY

Schlumberger  
Farmington, New Mexico

Engineer: Matt Garber

Logging Program: GR-DLL-MSFL, CNL-LDT, Sonic, DS

H. DRILL STEM TEST COMPANY

Baker Service Tools  
Farmington, New Mexico

Engineer: David Dolynink

III. RIG EQUIPMENT

A. MUD PUMPS AND TANK VOLUME

Pump #1 OPI 700 HDL 8" Stroke length

Pump #2 Oilwell 214P 14" Stroke length

Mud Tank Volume: 350 bbls

B. DRILL PIPE AND COLLAR SIZE

Drill Pipe: 4-1/2" X 6-1/4" XH Thread, 16.6 lbs./ft., Grade E

Collars: 2-1/4" X 6-1/4"

C. DRAW WORKS

Cardwell KB 500

D. SURFACE CASING

Conductor: 13-5/8" 2 joints set at 85' KB

Surface: 9-5/8" 36 lbs./ft., K55 grade 21 joints 854'

9-5/8" 32.3 lbs./ft, H40 grade 55 joints 2385'

set at 3299'

IV. BIT RECORD

<u>NO.</u>	<u>SIZE</u>	<u>TYPE</u>	<u>DEPTH RUN</u>	<u>TOTAL FOOTAGE</u>	<u>HOURS RUN</u>	<u>FEET/ HOUR</u>
1	17-1/2"	HTC R1	84'	84'	6	14'
2	12-1/4"	Reed EP52	2536'	2451'	44-3/4	54'
3	12-1/4"	HTC F2	3296'	860'		
4	8-3/4"	Reed HP13J	Drilled	D.V. Tool	0	0
5	8-3/4"	HTC J22C	5443'	2146'	67-3/4	31.7'
6	8-3/4"	HTC J33H	5842'	393'	23	17.1'

MERIDIAN OIL, INC.  
42-9 Navajo Federal

V. SURVEY RECORD

Section 9, T39S, R25E  
San Juan County, Utah

<u>DATE</u>	<u>DEPTH</u>	<u>TYPE</u>	<u>DEGREE</u>
11-2-86	550'	Wireline	1-1/2°
11-3-86	940'	Wireline	1°
11-3-86	1240'	Wireline	1°
11-4-86	1717'	Wireline	3/4°
11-4-86	2240'	Wireline	3/4°
11-5-86	2716'	Wireline	Misrun
11-5-86	2748'	Wireline	3/4°
11-6-86	3296'	Dropped Tool	1/4°
11-8-86	3830'	Wireline	3/4°
11-9-86	4670'	Wireline	3/4°
11-10-86	5410'	Dropped Tool	1°
11-13-86	5842'	Wireline	1/2°

<u>DAY</u>	<u>DATE</u>	<u>DEPTH</u>	<u>WT</u>	<u>VIS</u>	<u>FIL</u>	<u>PV</u>	<u>YP-GS</u>	<u>pH</u>	<u>Cl</u>	<u>SOLIDS</u>	<u>CA</u>	<u>FC</u>
1	11-7	3296'	8.4	27								
						FRESH WATER						
2	11-8	3575'	8.4	27								
						FRESH WATER						
3	11-9	4415'	8.4	27								
						FRESH WATER						
4	11-10	5185'	8.4	27								
						FRESH WATER						
5	11-11	5495'	9.0	40	20	11	9-5/16	11	5000	5%	Tr	4/32
6	11-12	5612'	9.0	39	20	11	3-3/7	10.5	5000	4%	226	3/32
7	11-13	5842'	9.3	39	19	8	7-4/18	10.5	8000	5%	226	3/32
8	11-14	5842'	9.3	39	19	8	7-4/18	10.5	8000	5%	226	3/32

VI. MUD RECORD

MERIDIAN OIL, INC.  
42-9 Navajo Federal

VII. DRILL STEM TEST REPORT

DST #1 - November 12, 1986

Test Company: Baker Service Tools  
Lynes, Inc.  
Farmington, New Mexico

Engineer: David Dolyniuk

Formation Tested: Upper Ismay Porosity

Interval: 5580'-5612'

Length of Test Interval: 32'

Test Type

Bottom Hole Conventional Packer Depths: Bottom 5571'  
Top 5580'

Mud Properties

Weight: 9.0 Viscosity: 40 Water Loss: 20

Resistivity of Mud: .7 at 60°F 6000 CL

Surface Data

Initial Flow: (IF)

15 Minutes: Opened with 1/4" blow, stayed the same through IF.

Initial Shut In (ISI)

60 Minutes: Blow dead

Final Flow (FF)

90 Minutes: Opened with 1/4" blow, decreased to no blow at 20 minutes, no  
blow through rest of FF.

Final Shut In (FSI)

180 Minutes: No blow



MERIDIAN OIL, INC.  
42-9 Navajo Federal

<u>Pressure Data</u>	<u>Chart Top</u>	<u>Chart Middle</u>	<u>Chart Bottom</u>
Instrument No.	246445	7881	24552
Capacity	4450	4900	6625
Depth	5558'	5600'	5610'
In/Out	Out	In	In
Clock Capacity	24 Hours	12 Hours	24 Hours
Temperature		132°F	132°F
Initial Hydrostatic Pressure	2611	2640	2645
Final Hydrostatic Pressure	2600	2632	2640
Initial Flow (15 Minutes)	51-75	56-80	54-82
Initial Shut In (60 Minutes)	244	256	252
Final Flow (90 Minutes)	75-93	80-102	82-109
Final Shut In (180 Minutes)	225	225	240

Recovery

Drill Pipe: Total fluid recovered 50' consisting of mud.

Sample Chamber: Pressure in Sampler 12 PSI

Total Volume of Sampler 1200 cc

Sample Drained on Rig Floor

Recovered 2100 cc Mud

Sample R.W. .7 at 60°F 12000 CL

Remarks

DST No. 1 was initiated at 9:25 P.M. (MST) on November 11, 1986 and was completed at 3:10 A.M. (MST) on November 12, 1986.

The test was mechanically successful. Final flow was revised from 120 minutes to 90 minutes and Final Shut In from 240 to 180 minutes due to loss of pressure during final flow.



LYNES, INC.  
P.O. Box 12486  
Houston, Texas 77217

# DRILL STEM TESTING OPERATION REPORT

Lynnes District B4764 Farmington Date 11-12, 1986 Field Ticket 21289  
Operator Meridian Oil  
Address 175 North 27 Street  
Billings Montana 59101  
Well Name & Number Navajo 42-9 DST No. 1 Net Ft. Pay 6  
Contractor Hatee Top Choke 1 1/4" Bottom Choke 3/4" Flow No. 1 15 Min.  
Rig No. 301 Size Hole 8 3/4" Size Rat Hole — Shut-in No. 1 60 Min.  
Spot SE NE Casing Size & Wt. 7 5/8" at 3296 Flow No. 2 90 Min.  
Sec. 9 Size & Wt. D. P. or Tubing 4 1/2 x H Shut-in No. 2 180 Min.  
Twp. 39 S Size Wt. Pipe — Flow No. 3 — Min.  
Rng. 25 E I. D. of D. C. 2 1/4" 4 1/2 x H Shut-in No. 3 — Min.  
Field Kiva Field Length of D. C. above Tool 612' Bottom Hole Temp. 132  
County San Juan Total Depth 5612 Mud Weight 9.0  
State Utah Interval Tested 3560 - 5612 Gravity —  
K. B. Elevation 4867 Interval Perforated — Viscosity 40  
Formation Upper Ismay Type of Test Bottom Hole Cap. Tool Opened @ 9:25 pm

Caliper Log Run Prior to Test: Yes ☐ No ☒  
Calipered Hole Size @ Top Pkr. — @ Bottom Pkr. —  
Did well flow gas 100 in — mins.  
Did well flow oil 100 in — mins.  
Did well flow water 100 in — mins.

## BOTTOM HOLE SAMPLER

Pressure in Sampler: 12 PSIG  
Total Volume of Sampler: 2100 cc.  
Total Volume of Sample: 2100 cc.  
Where was Sample drained? on Rig floor  
Oil: — cc.  
Water: — cc.  
Mud: 2100 cc.  
Gas: — cu. ft.  
Other: —  
Sample R. W.: .7 at 60° 12000 CL  
Gravity — Gas/Oil Ratio —  
Make Up Water R. W.: 1.2 at 60° 6000 CL  
Mud Pit Sample R. W.: .7 at 60° 12000 CL

Bottom of Top Packer 5571  
Bottom of Second Packer 5580  
Top of Straddle Packer —  
Top of Fourth Packer —  
Length of Test Interval 32'  
Test Interval: Anchor 32' Collars — DP —  
Below Straddle: Anchor — Collars — DP —  
Was tool plugged? — Was anchor plugged? —  
Did straddle pkr. hold? — Press. below straddle —

## REMARKS:

Tight Hole!

Recorder No. — Ran Under Straddle Pkr. —

Type K-3 No. 24645 Clock —  
Cap. 4430 Loc. 5558 No. 26685  
Inside ✓ Outside — Hrs. 24

Type K-3 No. 7881 Clock —  
Cap. 4900 Loc. 5600 No. 27193  
Inside ✓ Outside — Hrs. 12

Type K-3 No. 21552 Clock —  
Cap. 6625 Loc. 5610 No. 25133  
Inside — Outside — Hrs. 24

Press.	Field	Corrected	Press.	Field	Corrected	Press.	Field	Corrected
IH	A	2611	IH	2640	—	IH	2645	—
FH	K	2600	FH	2632	—	FH	2640	—
IF-1	B	51	IF-1	56	—	IF-1	54	—
FF-1	C	75	FF-1	80	—	FF-1	82	—
IF-2	E	75	IF-2	80	—	IF-2	82	—
FF-2	F	93	FF-2	102	—	FF-2	109	—
IF-3	H	—	IF-3	—	—	IF-3	—	—
FF-3	I	—	FF-3	—	—	FF-3	—	—
SIP-1	D	244	SIP-1	256	—	SIP-1	252	—
SIP-2	G	225	SIP-2	225	—	SIP-2	240	—
SIP-3	J	—	SIP-3	—	—	SIP-3	—	—

LYNES TECHNICIAN

RESERVOIR ANALYSIS? —

WELL OWNERS REPRESENTATIVE (Please Print Legibly)

David Dolyniuk

No. Final Copies —

Charlie Bjerly



LYNES, INC.  
P.O. Box 12486  
Houston, Texas 77217

# DRILL STEM TESTING SEQUENCE REPORT

Lynnes District B4764 Farmington Date 11-12, 1986 Field Ticket 21259  
Operator Meridian Oil  
Address \_\_\_\_\_

GAS MEASUREMENTS				DATE	TIME	SEQUENCE OPERATIONS
Measured with				11-11	7:00	on Location
Critical well tester						
Orifice well tester				11-11	5:30	Pick up DST (5280 - 5612)
Side static						
Pitot tube				11-11	7:00	Start Trip in Hole
Floor manifold with chokes					9:25	Tool on Bottom opened for
Riser size						Initial flow - opened 1/4" blow
Pressure gauge- PSI						Stayed the same through 1st
Oz.						
TIME	PSI	CHOKE	MCF/D			
					9:40	Tool - closed for initial shut in
						Blow dead,
					10:40	Tool opened for FF. opened
						1/4". decreased to no blow
						at 20 min, no blow through
						rest of FF.
No Gas To Surface					12:10	Tool closed for FSI - no blow.
					3:10	Start Trip out of hole.
					7:00	Tool on Bunk

Cushion None Amount - Ft.

Cushion none Amount - Ft.

Total Fluid Recovered 50' Ft. Consisting of: mud

50' Ft. of mud

Ft. of \_\_\_\_\_

Ft. of \_\_\_\_\_

Ft. of \_\_\_\_\_

Ft. of \_\_\_\_\_

Ft. of Gas Recovered in Drill Pipe \_\_\_\_\_

Test was/was not reverse circulated? was not

Recovery \_\_\_\_\_

Top Sample R.W. .7 at 60° 12000 CL

Middle Sample R.W. .7 at 60° 12000 CL

Bottom Sample R.W. .7 at 60° 12000 CL

LYNES TECHNICIAN

RESERVOIR ANALYSIS? \_\_\_\_\_

WELL OWNERS REPRESENTATIVE (Please Print Legibly)

David Dolyniuk

Charlie Byerly

VIII. FORMATION TOPS

Operator:	Meridian Oil, Inc.	
Well Name:	42-9 Navajo Federal	
Well Location:	Sec. 9, T39S, R25 E	Ground Level: 4857'
	San Juan County, Utah	KB Elevation: 4870'

<u>FORMATION</u>	<u>SAMPLE TOP</u>	<u>E-LOG</u>	<u>COMPARISON TO SEA LEVEL</u>	<u>THICKNESS</u>
Hermosa	4500'	4501'	(+ 369')	973'
Upper Ismay	4570'	5474'	(- 604')	118'
Upper Ismay Porosity	5600'	5592'	(- 722')	26'
"A" Shale	5620'	5618'	(- 748')	17'
Lower Ismay	5640'	5635'	(- 765')	55'
Gothic	5690'	5690'	(- 820')	20'
Desert Creek	5710'	5710'	(- 840')	60'
Desert Creek Porosity	5760'	5770'	(- 900')	20'
Chimney Rock	5790'	5790'	(- 920')	30'
Akah	5810'	5810'	(- 940')	30'
T.D.	5842'	5842'	(- 972')	

IX. GEOLOGIC SUMMARY

Tooke Engineering commenced logging services at a depth of 3300' on November 7, 1986 in the Permian Aged Cutler Group.

The primary objective of the No. 42-9 Navajo Federal well, located in Section 9, Township 39 South, Range 25 East of San Juan County, Utah, was the Algal Mound development in the Pennsylvanian Aged Upper Ismay Zone of the Paradox Formation in the Hermosa Group. Secondary objective was porosity development in the Lower Desert Creek Zone at Pennsylvanian Age. Therefore, a developmental well to define the perimeters of the Algal Mound, which composes the Kiva Field.

The formations encountered during logging procedures of the 42-9 Navajo Federal well were from Lower Cutler Group of Permian Age to the Akah Zone of the Paradox Formation in the Hermosa Group which is of Pennsylvanian Age.

Formations encountered included:

A. PERMIAN PERIOD

1. Cutler Group (undivided)

B. PENNSYLVANIAN PERIOD

1. Hermosa Group
  - a. Honaker Trail Formation (Hermosa)
  - b. Paradox Formation
    - (1) Upper Ismay Zone
    - (2) "A" Shale Zone
    - (3) Lower Ismay Zone
    - (4) Gothic Shale Zone
    - (5) Desert Creek Zone
    - (6) Chimney Rock Shale Zone
    - (7) Akah Zone

A. PERMIAN PERIOD

1. Cutler Group

Formation Top: Commenced logging in Cutler at 3300'

Thickness: 3300'-4501' 1201'

Average Penetration: 1.5 min/ft

Shows: None

The Lower Cutler Formation consists mainly of shales with interbedded sandstones, thin beds of limestone and minor anhydrite.

The shales are orange to orange brown, to orange red, blocky to platy, earthy, silty, calcareous, occasionally sandy, firm. Becoming brown gray, orange, platy, earthy, silty, slightly calcareous, firm.

The sandstones were light gray, clear, translucent, frosted, white, light brown, orange, very fine to fine grained, subangular to subrounded, poor to moderately sorted, calcareous, clean to clay filled, silty, poor porosity, firm, friable.

The limestone was light gray brown, cryptocrystalline to very finely crystalline, tight intercrystalline porosity, slightly argillaceous, dense, firm to hard, with occasional trace of anhydrite, white, amorphous, soft.

B. PENNSYLVANIAN PERIOD

1. Hermosa Group

a. Honaker Trail Formation

Formation Top: 4501' (+ 369')

Thickness: 4501'-5474' 973'

Average Penetration: 2 min/ft

Shows: Yes

The Honaker Trail consists primarily of shales at the top of the formation and becomes predominantly a carbonate at the base.

The shales are orange to brownish red, gray, blocky to platy, earthy to subwaxy, slightly silty, occasionally sandy, calcareous to limy in part,

slightly pyritic in part, firm.

The limestones are light to medium gray, cream, light brown, microcrystalline to cryptocrystalline, very finely crystalline to dense in part, tight to poor intercrystalline porosity, argillaceous, occasionally dolomitic in part, trace fossil fragments, sandy in part, hard.

The sandstones were thin and interbedded, and consisted of light gray, white, light brown, very fine to medium grained, subangular, moderately to poorly sorted, micaceous, glauconitic in part, calcareous, slightly clay filled, poor porosity, firm to friable.

There were no hydrocarbon shows, however there were several gas shows throughout the formation. (See mud log)

b. Paradox Formation

(1) Upper Ismay

Formation Top: 5474' (- 604')

Thickness: 5474'-5618' 144'

Average Penetration:

Shows: Yes

The Upper Ismay consists primarily of Anhydrite at the top, limestone and dolomite at the bottom.

The anhydrite was white, light gray, translucent, amorphous to very finely crystalline, soft-medium firm.

The limestone was light medium gray, light brown, tan, cream, cryptocrystalline to microcrystalline, occasionally very finely crystalline, poor to fair intercrystalline porosity, trace poor pinpoint vugular porosity, argillaceous, trace fossil fragments, trace microfractures, dolomitic in part, hard, slight dull gold fluorescence, no cut.

The dolomite was light gray, light brown to cream, microcrystalline to very finely crystalline, poor to fair intercrystalline porosity, microsucrosic, argillaceous, limy in part, hard, even light brown oil stain, bright yellow to green fluorescence, slow streaming bright yellow to green cut. See Show Report #1 and Mudlog for shows and gas.

(2) "A" Shale

Top:

Thickness: 5618'-5635' 17'

Average Penetration: 3.5 min/ft

Shows: None

The "A" shale consists of shale, dark gray, black, platy to blocky, earthy to sooty, slightly silty in part, calcareous, carbonaceous, hard. Gas was encountered at the top and stayed steady throughout the zone. See Mudlog.

(3) Lower Ismay

Formation Top: 5635' (- 765')

Thickness: 5635'-5690' 55'

Average Penetration: 3.25 min/ft

Shows: Yes

The Lower Ismay is composed of limestone and anhydrite.

The anhydrite is white, light gray, translucent, amorphous to very finely crystalline, soft.

The limestone is light to medium gray, tan to brown, cryptocrystalline to microcrystalline, poor intercrystalline porosity, dolomitic in part, argillaceous, hard, trace dull gold fluorescence, no cut.

No hydrocarbon shows were encountered, however there were several gas shows through the Lower Ismay. See Mudlog.



(4) Gothic Shale Zone

Formation Top: 5690' (- 820')

Thickness: 5690'-5710' 20'

Average Penetration: 2.25 min/ft

Shows: None

The Gothic Shale is black, dark gray, blocky to platy, earthy to sooty, silty, calcareous, carbonaceous, firm, no fluorescence, no cut.

Gas was encountered at the top. See Mudlog.

(5) Desert Creek Zone

Formation Top: 5710' (- 840')

Thickness: 5710'-5790' 80'

Average Penetration: 3 min/ft

Shows: Yes

The Desert Creek is composed of limestone and anhydrite.

The anhydrite is white, light gray, translucent, amorphous to very finely crystalline, soft to medium firm.

The limestone is light to medium gray, light gray brown, tan, cream, microcrystalline to cryptocrystalline, occasionally very finely crystalline, poor intercrystalline porosity, argillaceous, dolomitic, hard, trace fossil fragments, dull gold fluorescence, no cut, no stain. Gas was logged throughout the formation. (See Show Report #2 and Mudlog)

(6) Chimney Rock Shale Zone

Formation Top: 5790' (- 920')

Thickness: 5790'-5810' 30'

Average Penetration: 2.5 min/ft

Shows: None

The Chimney Rock Shale is black, dark gray brown, earthy to sooty, platy to blocky, slightly calcareous, carbonaceous, trace pyrite, medium firm. Gas was logged at the top. (See Mudlog)

(7) Akah Zone

Formation Top: 5810' (- 940')

Thickness: 5810'-5840' 30'

Average Penetration: 3.5 min/ft

Shows: Yes

The Akah is composed of limestone and anhydrite. The limestone is light gray, brown, microcrystalline to very finely crystalline, poor to fair intercrystalline porosity, slightly argillaceous, occasionally dolomitic in part, hard, dull gold fluorescence, no cut. No hydrocarbon shows. See Mudlog for gas shows.

The anhydrite is white, light gray, amorphous, soft. Total depth was two feet into salt which was picked by drill rate and not seen in samples.

X. LOG CALCULATIONS

<u>DEPTH</u>	<u><math>\phi_n</math></u>	<u><math>\phi_d</math></u>	<u><math>X_{plt}</math></u>	<u>F</u>	<u><math>R_t</math></u>	<u><math>R_w</math></u>	<u><math>SW = \sqrt{\frac{FR_w}{R_t}}</math></u>
5480'	10.8	3.9	8 %	156.3	37	.034	38%
5491'	9	3.5	6.5%	236.7	160	.034	22%
5507'	6	1.8	4 %	625	63	.034	58%
5593'	13	1.2	7.1%	198.4	18	.034	61%
5603'	16.5	4.8	10.5%	90.7	9.5	.034	57%
5609'	23.8	8	15.8%	40.1	6	.034	48%
5640'	4.8	1.1	3.2%	978.6	340	.034	31%
5644'	8.8	2.5	5.8%	297.3	60	.034	41%
5653'	8	2.5	5.5%	330.6	58	.034	44%
5657'	5	-0.5	2.5%	1660	140	.034	62%
5680'	14.6	2.8	8.5%	138.4	30	.034	16%
5685'	13.9	2.1	8 %	156.3	18	.034	54%
5721'	19.5	7.8	13.2%	57.4	30	.034	26%
5738'	17.1	1.1	9.1%	120.8	27	.034	15%
5747'	18.8	4.8	12.2%	67.2	17	.034	37%
5750'	12.4	4.2	9 %	123.5	29	.034	38%
5758'	13.1	1.2	7.4%	182.6	33	.034	43%
5773'	23.8	7.9	16 %	39.1	5.5	.034	49%
5780'	13.5	3	8.1%	152.4	50	.034	32%
5810'	36	13.2	24.8%	16.3	26	.034	15%
5817'	17.8	7	12.2%	67.2	28	.034	29%

XI. SHOW REPORTS

Show No. 1

Meridian Oil, Inc. Well: 42-9 Date: November 11, 1986

Show Interval (Depth) from: 5598' to 5608'

Total Mud Gas: Prior (to show) 40 units

Maximum (during show) 330 units

Background (after show) 16 units

Duration of show 16 minutes

Chromatograph Analysis:

	<u>Before</u>	<u>Maximum</u>	<u>After Show</u>
C1	20 u	96 u	8 u
C2	13 u	64 u	5 u
C3	7 u	32 u	2 u
C4	2 u	20 u	1 u

Drilling Rate:

Before 5 m/f During 2 m/f After 4.5 m/f

Lithology Description: Dolomitic, light gray, cream, microcrystalline - very fine crystalline, fine intercrystalline porosity, trace pinpoint vugular porosity, limy, hard, even light brown oil stain, bright yellow green fluorescence, slow streaming bright yellow green cut.

Visible Porosity: Fair

Fluorescence: 10-20%, Bright yellow to green

Oil Cut: Fair

Oil Stain Fair, Poor

Mud Weight: 9.0

Water Loss: 20+

Viscosity: 42

Chlorides: 7000

Rig Activities: Checked flow - Yes

Pump Pressure: 1500 psi

Present Operation: Tripping for DST

Reported to: Cindy Crowley

Reported by: E.T. Gerhardy

Show No. 2

Meridian Oil, Inc. Well: 42-9

Show Interval (Depth) from: 5762' to 5772'

Total Mud Gas: Prior (to show) 560 units

Maximum (during show) 1240 units

Background (after show) 760 units

Duration of show 10 minutes

Chromatograph Analysis

	<u>Before</u>	<u>Maximum</u>	<u>After Show</u>
C1	96 u	288 u	176 u
C2	64 u	208 u	128 u
C3	48 u	128 u	80 u
C4	16 u	32 u	24 u

Drilling Rate:

Before 3.5 m/f During 2 m/f After 3.5 m/f

Lithology Description: Limestone is cream, light gray, brown, tan, micro-crystalline, poor intercrystalline porosity, argillaceous, dolomitic in part, hard, dull gold mineral fluorescence. No cut.

Visible Porosity: Poor

Fluorescence: 5% mineral fluorescence, Color - dull gold

Oil Cut: None

Oil Stain: None

Rig Activities: Checked Flow - No

Gain - None

Pump Pressure 1500 psi

Present Operation: Drilling Ahead.

Reported to: Cindy Crawley

Reported by: E. T. Gerhardy

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

(See other In-  
structions on  
reverse side)

Form approved. *St Utah*  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other WATER SOURCE

b. TYPE OF COMPLETION:

NEW WELL ☐ WORK OVER ☒ DEEP-EN ☐ PLUG BACK ☐ DIFF. RENVR. ☐ Other \_\_\_\_\_

2. NAME OF OPERATOR

MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR

P. O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) **RECEIVED**  
At surface SENE (1850' FNL - 1140' FEL) **AUG 20 1987**

At top prod. interval reported below Same

DIVISION OF OIL  
GAS & MINING

At total depth Same

14. PERMIT NO. DATE ISSUED

49-037-31263

15. DATE SPUDDED 11-1-86 16. DATE T.D. REACHED 11-12-86 17. DATE COMPL. (Ready to prod.) 7-11-87 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\* 4857' GL 19. ELEV. CASINGHEAD 4868' KB

20. TOTAL DEPTH, MD & TVD 3285' 21. PLUG, BACK T.D., MD & TVD 3115' 22. IF MULTIPLE COMPL., HOW MANY\* N/A 23. INTERVALS DRILLED BY X ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

2164' - 3106' (Wingate) 1308' - 1454' (Cutler)

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	AMOUNT PULLED
13-3/8"	54.5#	85'	17-1/2" SX	None
9-5/8"	36#	3285'	12" SX	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
N/A					3-1/2"	3013'	Btm Submersible

31. PERFORATION RECORD (Interval, size and number)

3106' - 3093' w/4 jspf  
3089' - 3085' w/4 jspf  
3076' - 3056' w/4 jspf  
2581' - 2601' w/4 jspf  
2678' - 2696' w/4 jspf  
(Continued on reverse)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
3056' - 3106'	2500 gal 15% Hcl
2581' - 2846'	2760 gal 15% Hcl
2378' - 2418'	750 gal 15% Hcl

33. PRODUCTION

DATE FIRST PRODUCTION 7-11-87 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) 225 HP Submersible Pump WELL STATUS (Producing or shut-in) Producing - Water Source

DATE OF TEST 7-12-87 HOURS TESTED 24 CHOKE SIZE N/A PROD'N. FOR TEST PERIOD X OIL—BBL. N/A GAS—MCF. N/A WATER—BBL. 4200 GAS-OIL RATIO N/A

FLOW, TUBING PRESS. N/A CASING PRESSURE 0 CALCULATED 24-HOUR RATE X OIL—BBL. N/A GAS—MCF. N/A WATER—BBL. 4200 OIL GRAVITY-API (CORR.) N/A

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY  
Dan Sodersten

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Kyle W. Hudson

TITLE Production Engineer

DATE 8/18/87

\*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
31. (Continued) 2838' - 2846' w/4 jspf 2378' - 2418' w/4 jspf 2164' - 2184' w/4 jspf 2205' - 2225' w/4 jspf 2164' - 2174' w/4 jspf 2442' - 2492' w/4 jspf CIBP @ 1500' (Drilled out) 1432' - 1454' w/4 jspf 1378' - 1398' w/4 jspf 1308' - 1328' w/4 jspf			32. (Continued) 2164' - 2225' 2400 gal 15% Hcl 2442' - 2492' 750 gal 15% Hcl 3056' - 3106' 4000 gal 15% Hcl 3056' - 3106' 27,000# 20-40 Sand 1432' - 1454' 2500 gal 15% Hcl 1378' - 1398' 3000 gal 15% Hcl 1308' - 1328' 3000 gal 15% Hcl			



# MERIDIAN OIL

## TRANSMITTAL LETTER RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

TO: Utah Dept. of Natural Resources  
Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
Attn: Well Records

FROM: C. L. Crawley  
Name  
Sr. Staff Geologist  
Title  
DATE: August 20, 1987  
VIA: Mail

QUANTITY	DESCRIPTION
	<u>Navajo Federal 42-9</u>
<u>✓ 1</u>	<u>DST Report - Baker Service Tools - DST #1</u>
<u>✓ 1</u>	<u>Mud Logger Report - Tooke</u>
<u>✓ 1</u>	<u>Dual Laterolog/MSFL - Run 1</u>
<u>✓ 1</u>	<u>Formation Density/Comp. Neutron - Run 1</u>
<u>✓ 1</u>	<u>Borehole Compensated Sonic - Run 1</u>

INSTRUCTIONS: Please acknowledge receipt promptly by signing and returning the copy.

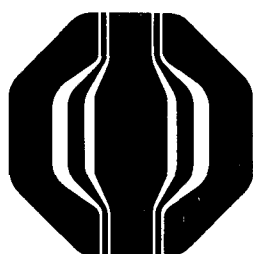
RECEIVED BY: Vicky Carney

DATE: 8-24-87

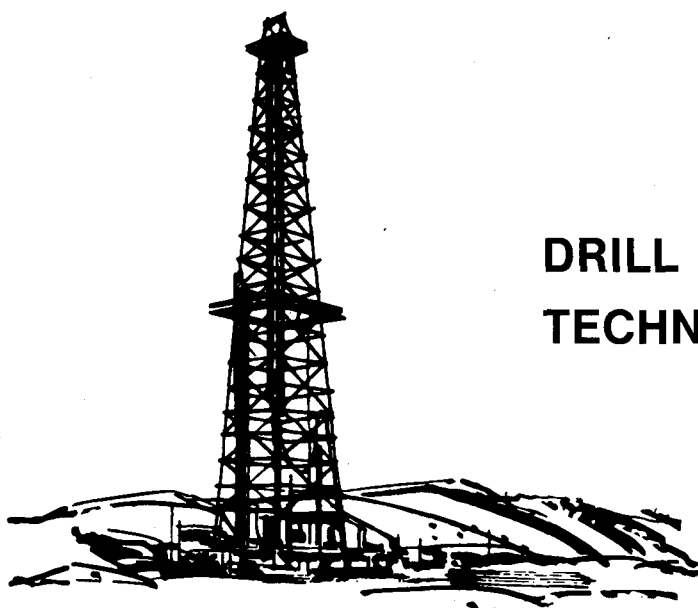
# BAKER



A Baker Oil Tools Company



**LYNES**



## DRILL STEM TEST TECHNICAL SERVICE REPORT

RECEIVED

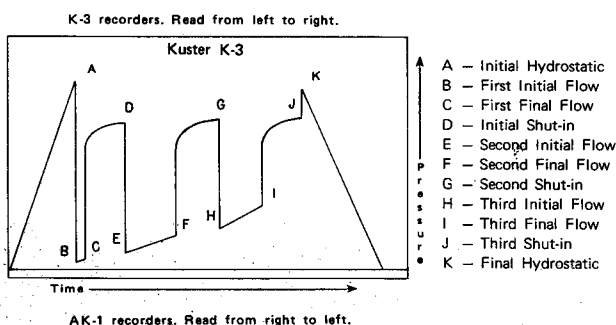
AUG 24 1987

DIVISION OF OIL  
GAS & MINING

# GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

## CODE USED ON CHART ENVELOPES



## NOMENCLATURE

Symbol	Definition	DST Unit
k	permeability.....	millidarcys (md)
h	pay thickness.....	feet (ft.)
u	viscosity.....	centipoise
T	reservoir temperature.....	°Rankin (°R)
Z	gas compressibility factor at average condition .....	—
q <sub>sc</sub>	gas production rate.....	MCF/d
M	Horner slope for liquid analysis.....	PSI/Cycle
Mg	Horner slope for (p <sup>2</sup> ) gas analysis.....	PSI <sup>2</sup> /Cycle
Pi	initial static reservoir pressure.....	PSI
Pwf	flowing bottom hole pressure.....	PSI
φ	porosity.....	(fraction)
rw	well bore radius.....	ft.
S	skin factor.....	—
AOF	absolute open flow.....	MCF/d
D. R.	damage ratio.....	—
re	external drainage radius.....	ft.
ISIP	initial shut-in pressure.....	PSI
FSIP	final shut-in pressure.....	PSI
b	approx. radius of investigation.....	ft.
t	flowing time.....	hrs.
B	formation volume factor.....	—
q	liquid production rate.....	bbls/day
c	gas compressibility.....	1/PSI
c	liquid compressibility.....	1/PSI

### A. Liquid Calculations

1. Transmissibility  
$$\frac{Kh}{u} = \frac{162.6}{m} \frac{q B}{\Delta P}$$
2. Capacity  
$$Kh = \frac{q B}{u} \times 0.869$$
3. Permeability  
$$K = \frac{Kh}{h}$$

#### 4. Skin Factor

$$S = 1.151 \left[ \frac{P_i - P_{wf}}{m} \log \frac{K t}{\phi \mu c_{r_w}^2} + 3.2275 \right]$$

#### 5. Pressure Drop Due to Skin

$$\Delta P_{skin} = \frac{162.6 B q u}{Kh} \times 0.869 \text{ or } \Delta P_{skin} = 0.869 M S$$

#### 6. Damage Ratio

$$\frac{P_i - P_{wf}}{m} \left[ \log \frac{K t}{\phi \mu c_{r_w}^2} - 3.2275 \right]$$

#### 7. Productivity Index

$$P. I. = \frac{q_a}{P_i - P_{wf}}$$

#### 8. Productivity Index Damage Removed

$$\frac{q_t}{P_i - P_{wf}} = P. I. a \times D. R.$$

#### 9. Radius of Investigation

$$b = 0.029 \sqrt{\frac{K t}{\phi \mu c}}$$

#### 10. Depletion Factor %

$$\frac{ISIP - FSIP}{ISIP} \times 100$$

### B. Gas Calculations

1. Transmissibility  
$$\frac{Kh}{u} = \frac{1637 T z q_{sc}}{Mg \Delta P}$$
2. Capacity  
$$Kh \times u = Kh$$
3. Permeability  
$$\frac{Kh}{h} = K$$

#### 4. Apparent Skin Factor

$$S = 1.151 \left[ \frac{P_i^2 - P_{wf}^2}{Mg} \log \left( \frac{K t}{\phi \mu c_{r_w}^2} \right) + 3.2275 \right]$$

#### 5. Pressure Drop Due to Skin

$$\Delta P_{skin} = P_i - P_{wf} = \sqrt{(P_{wf}^2) + 0.869 Mg S}$$

#### 6. Damage Ratio

$$\frac{P_i^2 - P_{wf}^2}{Mg} \left[ \log \frac{K t}{\phi \mu c_{r_w}^2} - 3.2275 \right]$$

#### 7. Absolute Open Flow

$$\frac{(P_i^2) (Kh)}{Mg \left[ \log \frac{K t}{\phi \mu c_{r_w}^2} - 3.2275 + .869 S \right]}$$

#### 8. AOF Damage removed

$$AOF \times DR$$

#### 10. Radius of Investigation

$$b = 0.029 \sqrt{\frac{K t}{\phi \mu c}}$$

#### 9. Estimated Stabilized AOF

$$\frac{(P_i^2) (Kh)}{3263 u z t \left[ \log \left( \frac{472 r_e}{r_w} \right) + \frac{s}{2.303} \right]}$$

#### 11. Depletion %

$$\frac{ISIP - FSIP}{ISIP} \times 100$$

Contractor Aztec  
 Rig No. 301  
 Spot SE/NE  
 Sec. 9  
 Twp. 39S  
 Rng. 25E  
 Field Kiva Field  
 County San Juan  
 State Utah  
 Elevation 4867 ft  
 Formation Upper Isman

Top Choke 1/4"  
 Bottom Choke 3/4"  
 Size Hole 8 3/4"  
 Size Rat Hole --  
 Size & Wt. D. P. 4 1/2" XH 16.60#  
 Size Wt. Pipe --  
 I. D. of D. C. 2 1/4"  
 Length of D. C. 612 ft  
 Total Depth 5612 ft  
 Interval Tested 5580-5612 ft  
 Type of Test Bottom Hole  
Conventional

Flow No. 1 15 Min.  
 Shut-in No. 1 60 Min.  
 Flow No. 2 90 Min.  
 Shut-in No. 2 180 Min.  
 Flow No. 3 -- Min.  
 Shut-in No. 3 -- Min.

Bottom Hole Temp. 132° F  
 Mud Weight 9.0  
 Gravity --  
 Viscosity 40

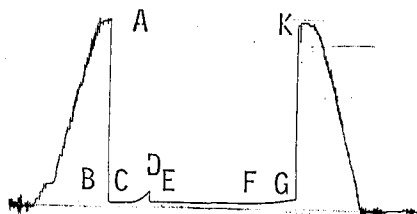
Tool opened @ 9:25 pm

Outside Recorder

PRD Make Kuster K-3  
 No. 24552 Cap. 6625 @ 5610'

	Press	Corrected
Initial Hydrostatic	A	2668
Final Hydrostatic	K	2668
Initial Flow	B	58
Final Initial Flow	C	63
Initial Shut-in	D	220
Second Initial Flow	E	74
Second Final Flow	F	82
Second Shut-in	G	146
Third Initial Flow	H	--
Third Final Flow	I	--
Third Shut-in	J	--

Lynes Dist. Farmington, NM  
 Our Tester: David Dolyniuk  
 Witnessed By: Charlie Byerly



Did Well Flow - Gas No Oil No Water No

RECOVERY IN PIPE: 50 ft. Mud = .25 bbl.

### Blow Description:

- 1st flow: Tool opened with a 1/4" blow and remained throughout the flow.
- 2nd flow: Tool opened with a 1/4" blow, becoming nil in 20 minutes and remaining throughou the flow.

### Comments:

The test results indicate a mechanically successful test. The flow and shut-in curves suggest low permeability within the zone tested.

Operator Meridian 011  
 Address 175 North 27th Street  
Billings, MT 59101

Well Name and No. Navajo Federal 1 #42-9  
 Ticket No. 21289  
 Date 11-12-86

DST No. 1  
 No. Final Copies 6

MERIDIAN OIL  
DST#: 1  
NAVAJO FEDERAL #42-9  
5580 - 5613ft.

Page 1

Location: 9-39S-25E  
Test Type: BOTTOM HOLE CONVENTIONAL  
Formation: 5610

Recorder Number: 24552  
Recorder Depth: 6625

SAMPLE DATA  
\*\*\*\*\*

SAMPLE CHAMBER:  
\*\*\*\*\*

Capacity of sample chamber	2100	cc
Volume of sample.....	2100	cc
Pressure in sampler.....	12	psig
Where sampler was drained...	on location	

Sampler contained:  
Mud 2100 cc

RESISTIVITY DATA:  
\*\*\*\*\*

Top.....	10 000 PPM NACL
Middle.....	10 000 PPM NACL
Bottom.....	10 000 PPM NACL
Sampler.....	10 000 PPM NACL
Mud pit.....	10 000 PPM NACL
Make-up Water...	5500 PPM NACL

MERIDIAN OIL  
DST#: 1  
NAVAJO FEDERAL #42-9  
5580 - 5613ft.

Page 2

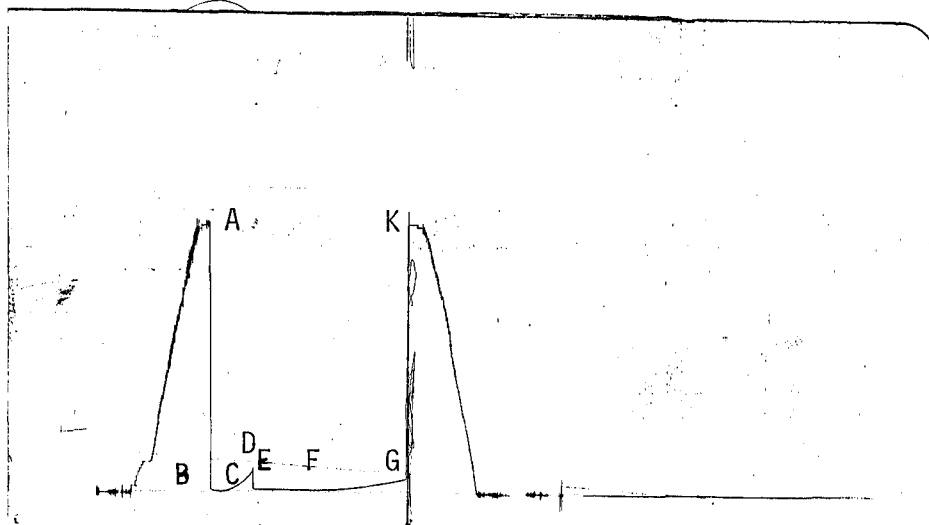
PRESSURE RECORDER NUMBER : 24645

DEPTH : 5558.00ft.  
TYPE : K-3

LOCATION : INSIDE  
CAPACITY : 4450.00psi

PRESSURE  
psi

A)Initial Hydro : 2617.0  
B)1st Flow Start: 39.0  
C)1st Flow End : 39.0  
D)END 1st Shutin: 220.0  
E)2nd Flow Start: 39.0  
F)2nd Flow End : 45.0  
G)END 2nd Shutin: 139.0  
Q)Final Hydro. : 2617.0



TEST TIMES(MIN)  
1st FLOW : 15  
SHUTIN: 60  
2nd FLOW : 90  
SHUTIN: 180

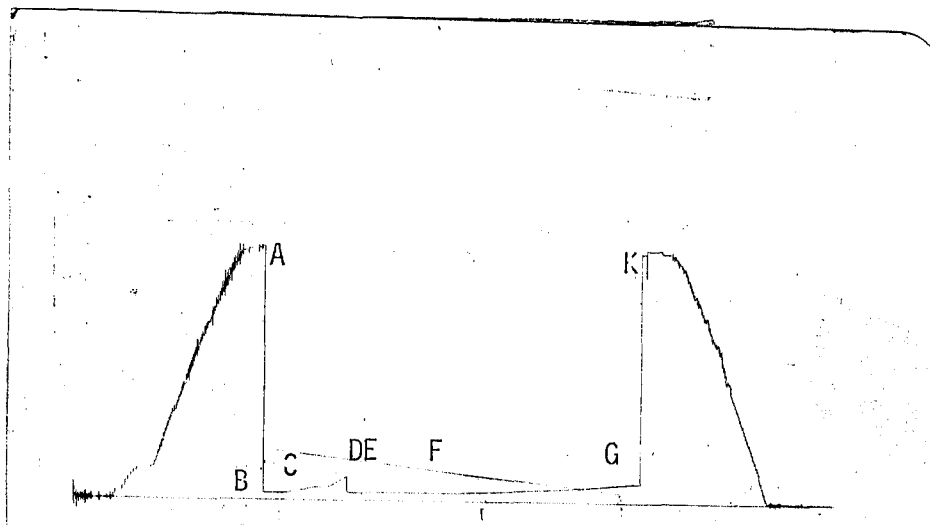
PRESSURE RECORDER NUMBER : 7661

DEPTH : 5600.00ft.  
TYPE : K-3

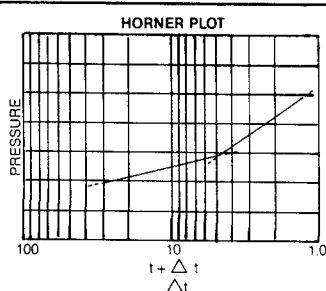
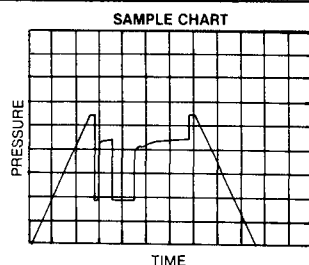
LOCATION : INSIDE  
CAPACITY : 4900.00psi

PRESSURE  
psi

A)Initial Hydro : 2666.0  
B)1st Flow Start: 70.0  
C)1st Flow End : 74.0  
D)END 1st Shutin: 242.0  
E)2nd Flow Start: 84.0  
F)2nd Flow End : 103.0  
G)END 2nd Shutin: 199.0  
Q)Final Hydro. : 2666.0



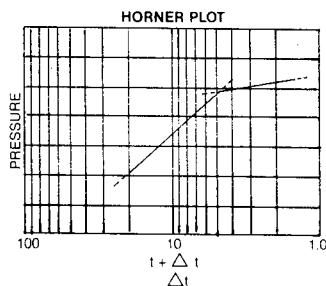
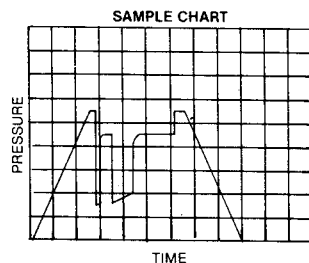
# Lynes Guide to Detection of Geological Anomalies



## Horner Plot Slope Breaks Upward

### Possible Causes

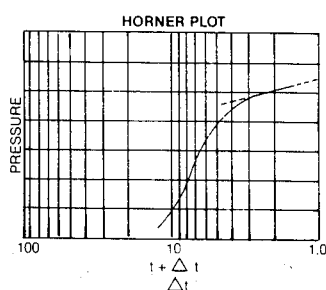
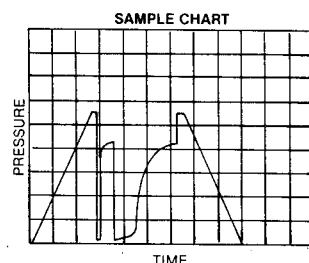
- (1) decrease in pay thickness away from the wellbore
- (2) decrease in permeability away from the wellbore
- (3) increase in viscosity of reservoir fluid (fluid contact)
- (4) barrier within the radius of investigation



## Horner Plot Slope Breaks Downward

### Possible Causes

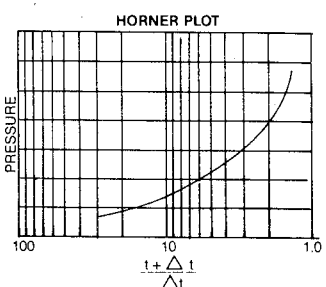
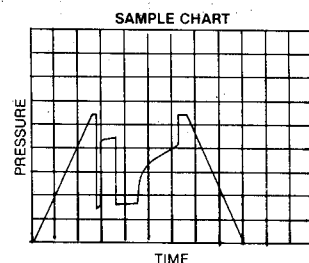
- (1) increase in pay thickness away from the wellbore
- (2) increase in permeability away from the wellbore
- (3) decrease in viscosity away from the wellbore



## Early Time Deviation of Horner Plot

### Possible Causes

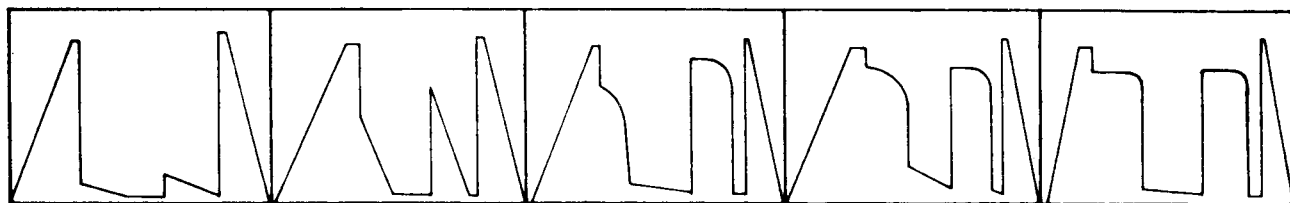
- (1) wellbore damage due to filtrate invasion, drilling solids, etc.
- (2) partial penetration of pay zone
- (3) plugging or choking of perforations (casing test only)
- (4) wellbore storage effects (low permeability gas wells)



## Horner Plot Slope Continually Increasing

### Possible Causes

- (1) well between two parallel boundaries (channel sand)
- (2) induced hydraulic fractures



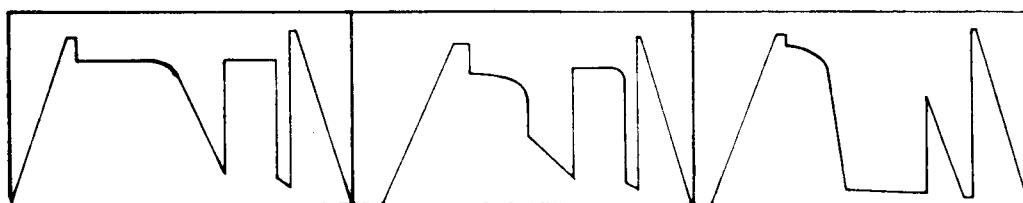
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again usually mud recovered.

Slightly higher permeability. Small recovery, less than 200 ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.



Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL

OIL WELL ☐

GAS WELL ☐

OTHER ☐

2. NAME OF OPERATOR:

Merit Energy Company

3. ADDRESS OF OPERATOR:

12222 Merit Dr., Suite CITY Dallas

STATE TX

ZIP 75251

PHONE NUMBER:

(972) 701-8377

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See Attached

COUNTY: San Juan

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE:

UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Merit Energy Company advises, effective SEPT. 30, 2000, Journey Operating, L.L.C. will become the operator of the wells on the attached list.

Journey Operating, L.L.C.  
1201 Louisiana, Suite 1040  
Houston, TX. 77002  
(713) 655-0595

By: Brian A. Baer  
Brian A. Baer, President

RECEIVED

OCT 20 2000

DIVISION OF  
OIL, GAS AND MINING

NAME (PLEASE PRINT) Arlene Valliquette

TITLE Manager - Regulatory Affairs

SIGNATURE

Arlene Valliquette

DATE

9/29/00

(This space for State use only)



**CHANGE OF OPERATOR**  
**from Merit Energy Company to Journey Operating, L.L.C.**  
**San Juan County, Utah**

**Attachment to Utah Form 19**

Well Type	Lease Serial No.	Field Name	Well Name/Number	API Number	Location of Well
Oil Well	UTU-40361	Bannock	Bannock Federal #21-33	43-037-31425	NE NW (685' FNL & 1520' FWL) Sec. 33-T38S-R24E
Injection Well	I-149-IND-9123	Ismay	Ismay Flodine Park R-124	43-037-16169	NE NE (660' FNL & 660' FEL) Sec. 24-T40S-R25E
Oil Well	14-20-603-2055-A	Ismay	Ismay Flodine Park S-216	43-037-15546	SW NW (1820' FNL & 500' FWL) Sec. 16-T40S-R26E
Injection Well	14-20-603-2055-A	Ismay	Ismay Flodine Park T-316	43-037-16462	NE SW (1980' FSL & 1980' FWL) Sec. 16-T40S-R26E
Oil Well	14-20-603-2055-A	Ismay	Ismay Flodine Park S-416	43-037-15544	SW SW (1820' FNL & 500' FWL) Sec. 16-T40S-R26E
Oil Well	14-20-603-2055-A	Ismay	Ismay Flodine Park U-416	43-037-15545	SW SE (660' FSL & 1980' FEL) Sec. 16-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park T-117	43-037-16456	NE NW (775' FNL & 1995' FWL) Sec. 17-T40S-R26E
Oil Well	I-149-IND-9124	Ismay	Ismay Flodine Park S-217	43-037-16170	SW NW (1980' FNL & 660' FWL) Sec. 17-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park V-117	43-037-16188	NE NE (660' FNL & 660' FEL) Sec. 17-T40S-R26E
Oil Well	I-149-IND-9124	Ismay	Ismay Flodine Park U-217	43-037-16180	SW NE (1980' FNL & 1820' FEL) Sec. 17-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park T-317	43-037-16463	NE SW (1980' FSL & 1980' FWL) Sec. 17-T40S-R26E
Oil Well	I-149-IND-9124	Ismay	Ismay Flodine Park U-417	43-037-16185	SW SE (500' FSL & 1820' FEL) Sec. 17-T40S-R26E
Injection Well	I-149-IND-9123	Ismay	Ismay Flodine Park T-118	43-037-16457	NE NW (660' FNL & 1980' FWL) Sec. 18-T40S-R26E
Oil Well	I-149-IND-9123	Ismay	Ismay Flodine Park S-218	43-037-16171	SW NW (1820' FNL & 660' FWL) Sec. 18-T40S-R26E
Oil Well	I-149-IND-9123	Ismay	Ismay Flodine Park T-318	43-037-16464	NE SE (1980' FSL & 1980' FWL) Sec. 18-T40S-R26E
Oil Well	I-149-IND-9123	Ismay	Ismay Flodine Park V-318	43-037-16467	NE SE (1980' FSL & 660' FEL) Sec. 18-T40S-R26E
Oil Well	I-149-IND-9123	Ismay	Ismay Flodine Park U-418	43-037-16186	SW SE (660' FSL & 1980' FEL) Sec. 18-T40S-R26E
Injection Well	I-149-IND-9123	Ismay	Ismay Flodine Park T-119	43-037-16458	NE NW (660' FNL & 1980' FWL) Sec. 19-T40S-R26E
Water Source Well	I-149-IND-9123	Ismay	Ismay Flodine Park V-219	43-037-16519	SE NE (1980' FNL & 560' FEL) Sec. 19-T40S-R26E
Oil Well	I-149-IND-9124	Ismay	Ismay Flodine Park V-120	43-037-16190	NE NE (660' FNL & 660' FEL) Sec. 20-T40S-R26E
Water Source Well	I-149-IND-9124	Ismay	Ismay Flodine Park V-220	43-037-20055	SE NE (1950' FNL & 1120' FEL) Sec. 20-T40S-R26E
Oil Well	I-149-IND-9124	Ismay	Ismay Flodine Park S-121	43-037-31629	NW NW (500' FNL & 660' FWL) Sec. 21-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park T-121	43-037-16460	NE NW (610' FNL & 2050' FWL) Sec. 21-T40S-R26E
Water Source Well	I-149-IND-9124	Ismay	Ismay Flodine Park U-121	43-037-20056	NW NE (540' FNL & 1980' FEL) Sec. 21-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park V-121	43-037-16191	NE NE (660' FNL & 660' FEL) Sec. 21-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park U-421	43-037-11267	SW SE (660' FSL & 1980' FEL) Sec. 21-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park V-321	43-037-16194	NE SE (1980' FSL & 670' FEL) Sec. 21-T40S-R26E

**CHANGE OF OPERATOR**  
**from Merit Energy Company to Journey Operating, L.L.C.**  
**San Juan County, Utah**

**Attachment to Utah Form 19**

Well Type	Lease Serial No.	Field Name	Well Name/Number	API Number	Location of Well
Oil Well	I-149-IND-9124	Ismay	Ismay Flodine Park S-222	43-037-16173	SW NW (2030' FNL & 820' FWL) Sec. 22-T40S-R26E
Injection Well	I-149-IND-9124	Ismay	Ismay Flodine Park T-322	43-037-16179	NE SW (1820' FSL & 1935' FWL) Sec. 22-T40S-26E
Oil Well	I-149-IND-9124	Ismay	Ismay Flodine Park U-422	43-037-16187	SW SE (820' FSL & 2140' FEL) Sec. 22-T40S-R26E
Oil Well	NOG-9904-1324	Ismay	Ismay Flodine Park S-227	43-037-16231	SW NW (2140' FNL & 820' FWL) Sec. 27-T40S-R26E
Oil Well	NOG-9904-1324	Ismay	Ismay Flodine Park U-127	43-037-31648	NE NE (745' FNL & 595' FEL) Sec. 27-T40S-R26E
Oil Well	NOG-9904-1324	Ismay	Ismay Flodine Park U-227	43-037-16234	SW NE (2120' FNL & 1950' FEL) Sec. 27-T40S-R26E
Oil Well	14-20-603-2058-A	Ismay	Ismay Flodine Park U-234	43-037-16184	SW NE (1980' FNL & 2080' FEL) Sec. 34-T40S-R26E
Water Source Well	UTU-20894	Kachina	Wash Unit #2	43-037-31324	SE SE (470' FSL & 850' FEL) Sec. 13-T38S-R23E
Oil Well	UTU-20895	Kachina	Havasus Federal #41-24	43-037-31279	NE NE (1050' FNL & 500' FEL) Sec. 24-T38S-R23E
Injection Well	UTU-20895	Kachina	Havasus Federal #42-24	43-037-31298	SE NE (1970' FNL & 461' FEL) Sec. 24-T38S-R23E
Injection Well	UTU-56186	Kachina	Arabian Federal #2	43-037-31282	NW SW (2180' FSL & 950' FWL) Sec. 19-T38S-R24E
Oil Well	UTU-56186	Kachina	Arabian Federal #3	43-037-31287	NE SW (1470' FSL & 1750' FWL) Sec. 19-T38S-R24E
Injection Well	UTU-56186	Kachina	Havasus Federal #11-19	43-037-31458	NW NW (940' FNL & 590' FWL) Sec. 19-T38S-R24E
Oil Well	UTU-56186	Kachina	Havasus Federal #12-19	43-037-31457	SW NW (1840' FNL & 410' FWL) Sec. 19-T38S-R24E
Oil Well	UTU-56186	Kachina	Havasus Federal #12-19A	43-037-31459	SW NW (2520' FNL & 200' FWL) Sec. 19-T38S-R24E
Oil Well	UTU-56186	Kachina	Havasus Federal #22-19	43-037-31278	SW NW (1850' FNL & 1255' FWL) Sec. 19-T38S-R24E
Injection Well	UTU-52333	Kiva	Navajo Federal #12-4	43-037-31395	SW NW (2260' FNL & 440' FWL) Sec. 4-T39S-R25E
Injection Well	UTU-52333	Kiva	Navajo Federal #14-4	43-037-31321	SW SW (1150' FSL & 1110' FWL) Sec. 4-T39S-R25E
Injection Well	UTU-52333	Kiva	Navajo Federal #23-4	43-037-31259	NE SW (1500' FSL & 2500' FWL) Sec. 4-T39S-R25E
Oil Well	UTU-52333	Kiva	Kiva Federal #24-4	43-037-31745	SE SW (1057' FSL & 1997' FWL) Sec. 4-T39S-R25E
Injection Well	UTU-52333	Kiva	Navajo Federal #4-1	43-037-31112	SE SW (370' FSL & 1940' FWL) Sec. 4-T39S-R25E
Oil Well	UTU-52333	Kiva	Navajo Federal #4-2	43-037-31161	SW SE (300' FSL & 2225' FEL) Sec. 4-T39S-R25E
Oil Well	UTU-52333	Kiva	Navajo Federal #4-4	43-037-31179	NW SW (1980' FSL & 660' FWL) Sec. 4-T39S-R25E
Oil Well	UTU-57895	Kiva	Navajo Federal #42-5	43-037-31261	SE NE (2130' FNL & 320' FEL) Sec. 5-T39S-R25E
Injection Well	UTU-58728	Kiva	Navajo Federal #43-5	43-037-31317	NE SE (1954' FSL & 627' FEL) Sec. 5-T39S-R25E
Oil Well	UTU-52333	Kiva	Navajo Federal #9-1	43-037-31001	NW NE (770' FNL & 2010' FEL) Sec. 9-T39S-R25E

**CHANGE OF OPERATOR**  
**from Merit Energy Company to Journey Operating, L.L.C.**  
**San Juan County, Utah**

**Attachment to Utah Form 19**

<b>Well Type</b>	<b>Lease Serial No.</b>	<b>Field Name</b>	<b>Well Name/Number</b>	<b>API Number</b>	<b>Location of Well</b>
Injection Well	UTU-52333	Kiva	Navajo Federal #21-9	43-037-31267	NE NW (330' FNL & 2510' FWL) Sec. 9-T39S-R25E
Water Source Well	UTU-52333	Kiva	Navajo Federal #42-9	43-037-31263	SE NE (1850' FNL & 1140' FEL) Sec. 9-T39S-R25E



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155

IN REPLY REFER TO  
UT-931

January 4, 2001

Journey Operating, L.L.C.  
Attn: Sandra Meche  
Louisiana Place  
1201 Louisiana Street  
Houston, Texas 77002

Re: Kiva (Upper Ismay) Unit  
San Juan County, Utah

Gentlemen:

We received an indenture dated September 30, 2000, whereby Merit Energy Company resigned as Unit Operator and Journey Operating, L.L.C. was designated as Successor Unit Operator for the Kiva (Upper Ismay) Unit, San Juan County, Utah.

This indenture was executed by all required parties and the signatory parties have complied with Sections 5 and 6 of the unit agreement. The instrument is hereby approved effective January 4, 2001. In approving this designation, the Authorized Officer neither warrants nor certifies that the designated party has obtained all required approval that would entitle it to conduct operations under the Kiva (Upper Ismay) Unit Agreement.

Your nationwide (Wyoming) oil and gas bond No. 3354 will be used to cover all operations within the Kiva (Upper Ismay) Unit.

It is requested that you notify all interested parties of the change in unit operator. Copies of the approved instruments are being distributed to the appropriate federal offices, with one copy returned herewith.

Sincerely,

/s/ Robert A. Henricks

Robert A. Henricks  
Chief, Branch of Fluid Minerals

Enclosure

bcc: Field Manager - Moab (w/enclosure)  
Division of Oil, Gas & Mining  
Minerals Adjudication Group U-932  
File - Kiva (Upper Ismay) Unit (w/enclosure)  
MMS - Data Management Division  
Agr. Sec. Chron  
Fluid Chron

UT931:TAThompson:tt:1/4/01

## Results of query for MMS Account Number 83687U6890

API Number	Operator	Well Name	Well Status	Lease or CA Number	Inspection Item	Township	Range	Section	Quarter/Quarter	Field Name	Production Zo
<u>4303731001</u>	MERIT ENERGY COMPANY	9-1 NAVAJO FEDERAL	POW	UTU52333	83687U6890	39S	25E	9	NWNE	KIVA	ISMAY
<u>4303731112</u>	MERIT ENERGY COMPANY	4-1 NAVAJO FEDERAL	WIW	UTU52333	83687U6890	39S	25E	4	SESW	KIVA	DESERT CREE
<u>4303731161</u>	MERIT ENERGY COMPANY	4-2 NAVAJO FEDERAL	POW	UTU52333	83687U6890	39S	25E	4	SWSE	KIVA	ISMAY
<u>4303731176</u>	<del>MERIT ENERGY COMPANY</del>	4-3 NAVAJO FEDERAL	P+A	UTU52333	83687U6890	39S	25E	4	NESW	KIVA	
<u>4303731179</u>	MERIT ENERGY COMPANY	4-4 NAVAJO FEDERAL	POW	UTU52333	83687U6890	39S	25E	4	NWSW	KIVA	ISMAY
<u>4303731259</u>	MERIT ENERGY COMPANY	23-4 NAVAJO-FEDERAL	TA	UTU52333	83687U6890	39S	25E	4	NESW	KIVA	ISMAY-DESER CREEK
<u>4303731261</u>	MERIT ENERGY COMPANY	42-5 NAVAJO-FEDERAL	POW	UTU58728	83687U6890	39S	25E	5	SENE	KIVA	ISMAY
<u>4303731263</u>	MERIT ENERGY COMPANY	42-9 NAVAJO-FEDERAL	WSW	UTU52333	83687U6890	39S	25E	9	SENE	KIVA	
<u>4303731267</u>	MERIT ENERGY COMPANY	21-9 NAVAJO-FEDERAL	WIW	UTU52333	83687U6890	39S	25E	9	NENW	KIVA	ISMAY

4303731317	MERIT ENERGY COMPANY	43-5 NAVAJO (BH 5)	OSI	UTU58728	83687U6890	39S	25E	4	NWSW	KIVA	ISMAY
4303731321	MERIT ENERGY COMPANY	14-4 NAVAJO FED	WIW	UTU52333	83687U6890	39S	25E	4	SWSW	KIVA	ISMAY
4303731395	MERIT ENERGY COMPANY	12-4 NAVAJO-FEDERAL	WIW	UTU52333	83687U6890	39S	25E	4	SWNW	KIVA	ISMAY
4303731745	MERIT ENERGY COMPANY	24-4 KIVAL FEDERAL	POW	UTU52333	83687U6890	39S	25E	4	SESW	KIVA	ISMAY

*DISCLAIMER for online data: No warranty is made by the BLM for use of the data for purposes not intended by the BLM.*

## OPERATOR CHANGE WORKSHEET

## ROUTING

1. GLH		4-KAS	✓
2. CDW		5- <del>STP</del>	✓
3. JLT		6-FILE	

Enter date after each listed item is completed

**X Change of Operator (Well Sold)**

Designation of Agent

Operator Name Change (Only)

Merger

The operator of the well(s) listed below has changed, effective: **9-30-2000**

<b>FROM:</b> (Old Operator):
MERIT ENERGY COMPANY
Address: 12222 MERIT DR.
DALLAS, TX 75251
Phone: 1-(972)-701-8377
Account N4900

<b>TO:</b> ( New Operator):
JOURNEY OPERATING LLC
Address: 1201 LOUISIANA, SUITE 1040
HOUSTON, TX 77002
Phone: 1-(713)-655-0595
Account N1435

CA No.

Unit: KIVA (UPPER ISMAY)

## WELL(S)

NAME	API NO.	ENTITY NO.	SEC. TWN RNG	LEASE TYPE	WELL TYPE	WELL STATUS
NAVAJO FEDERAL 4-1	43-037-31112	9975	04-39S-25E	FEDERAL	WI	A
NAVAJO FEDERAL 12-4	43-037-31395	10864	04-39S-25E	FEDERAL	WI	A
NAVAJO FEDERAL 14-4	43-037-31321	10780	04-39S-25E	FEDERAL	WI	A
NAVAJO FEDERAL 23-4	43-037-31259	9975	04-39S-25E	FEDERAL	WI	A
NAVAJO FEDERAL 43-5	43-037-31317	9975	05-39S-25E	FEDERAL	WI	A
NAVAJO FEDERAL 21-9	43-037-31267	10759	09-39S-25E	FEDERAL	WI	A
KIVA FEDERAL 24-4	43-037-31745	9975	04-39S-25E	FEDERAL	OW	P
NAVAJO FEDERAL 4-2	43-037-31161	9975	04-39S-25E	FEDERAL	OW	P
NAVAJO FEDERAL 4-4	43-037-31179	9975	04-39S-25E	FEDERAL	OW	P
NAVAJO FEDERAL 42-5	43-037-31261	9975	05-39S-25E	FEDERAL	OW	P
NAVAJO FEDERAL 9-1	43-037-31001	9975	09-39S-25E	FEDERAL	OW	P
NAVAJO FEDERAL 42-9	43-037-31263	99998	09-39S-25E	FEDERAL	WSW	I

## OPERATOR CHANGES DOCUMENTATION

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 10/23/2000
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 10/23/2000
3. The new company has been checked through the **Department of Commerce, Division of Corporations Database** on: 01/05/2001

4. Is the new operator registered in the State of Utah: YES Business Number: 4822566-0161
5. If **NO**, the operator was contacted on: \_\_\_\_\_
6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the (merger, name change, or operator change for all wells listed on Federal or Indian leases on: 01/04/2001
7. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: 01/04/2001
8. **Federal and Indian Communization Agreements ("CA"):** The BLM or the BIA has approved the operator change for all wells listed involved in a CA on: N/A
9. **Underground Injection Control ("UIC") Pro:** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 01/08/2001

---

**DATA ENTRY:**

1. Changes entered in the **Oil and Gas Database** on: 01/05/2001
2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 01/05/2001
3. Bond information entered in RBDMS on: N/A
4. Fee wells attached to bond in RBDMS on: N/A

---

**STATE BOND VERIFICATION:**

1. State well(s) covered by Bond No.: N/A

---

**FEE WELLS - BOND VERIFICATION/LEASE INTEREST OWNER NOTIFICATION:**

1. (R649-3-1) The **NEW** operator of any fee well(s) listed has furnished a bond: N/A
2. The **FORMER** operator has requested a release of liability from their bond on: N/A  
The Division sent response by letter on: N/A
3. (R649-2-10) The **FORMER** operator of the Fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

---

**FILMING:**

1. All attachments to this form have been **MICROFILMED** on: 2-21-01

---

**FILING:**

1. **ORIGINALS/COPIES** of all attachments pertaining to each individual well have been filled in each well file on: \_\_\_\_\_

---

**COMMENTS:**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**From:** Don Staley  
**To:** Carol Daniels  
**Date:** Tue, Feb 20, 2001 3:24 PM  
**Subject:** Well Status?

Carol,

Would you mind checking on the status of a well for me? The API is 4303731263. Well data shows it as an inactive water source well. Well activity shows it as PA. The two screens should be made to match. Thanks.

Don

T395 R.25E Sec 09

Navy Id 42-9

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

PHONE CONVERSATION DOCUMENTATION FORM

☒ This is the original form ☒ or a copy ☐

☒ Route this form to:

☒ WELL FILE NAVAJO FEDERAL 42-9

☐ SUSPENSE

☐ OTHER

Section 09 Township 39S Range 25E  
API number 43-037-31263

Return date \_\_\_\_\_

To: initials \_\_\_\_\_

Date of phone call: FEBRUARY 22, 2001

Time: 11:25 AM

DOGM employee (name) CAROL DANIELS

Initiated call? ☒

Spoke with:

Name SANDRA MECHE

Initiated call? ☐

of (company/organization) JOURNEY OPERATING LLC

Phone no. 1-713-655-0595

Topic of conversation: CORRECT WELL STATUS AND TYPE OF WELL

Highlights of conversation: SANDRA SAID THE WELL WAS STILL AN ACTIVE WATER SOURCE WELL.

I FIXED THE OIL & GAS DATA BASE SCREENS PER HISTORY IN WELL FILE. THE WELL HAS NEVER  
BEEN PLUGGED AND ABANDONED NOR BEEN INACTIVE. THE 1ST AND ORIGINAL WCR SHOWS THE WELL  
AS TEMPORARY ABANDONED OIL WELL 11-14-86. CONVERTED TO WATER SOURCE WELL-PRODUCING,  
7-11-87.

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET**

**ROUTING**

1. DJJ

2. CDW

**X Change of Operator (Well Sold)**

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

**6/9/2006**

**FROM: (Old Operator):**

N1435-Journey Operating, LLC  
 201 Louisiana, Suite 1040  
 Houston, TX 77002

Phone: 1 (713) 655-0595

**TO: ( New Operator):**

N0265-Citation Oil & Gas Corp  
 8223 Willow Place South  
 Houston, TX 77070

Phone: 1 (281) 517-7800

CA No.				Unit:		KIVA		
WELL NAME	SEC TWN RNG			API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
NAVAJO FEDERAL 9-1	09	390S	250E	4303731001	9975	Federal	OW	P
NAVAJO FED 4-1	04	390S	250E	4303731112	9975	Federal	WI	A
NAVAJO FEDERAL 4-2	04	390S	250E	4303731161	9975	Federal	OW	S
NAVAJO FEDERAL 4-4	04	390S	250E	4303731179	9975	Federal	OW	P
NAVAJO FED 23-4	04	390S	250E	4303731259	9975	Federal	WI	I
NAVAJO FEDERAL 42-5	05	390S	250E	4303731261	9975	Federal	OW	S
NAVAJO FEDERAL 42-9	09	390S	250E	4303731263	9975	Federal	WS	A
NAVAJO FED 21-9	09	390S	250E	4303731267	9975	Federal	WI	A
NAVAJO FED 43-5	04	390S	250E	4303731317	9975	Federal	WI	A
NAVAJO FED 14-4	04	390S	250E	4303731321	9975	Federal	WI	A
NAVAJO FED 12-4	04	390S	250E	4303731395	9975	Federal	WI	A
24-4 KIVA FEDERAL	04	390S	250E	4303731745	9975	Federal	OW	P

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 6/23/2006
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 6/23/2006
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: \_\_\_\_\_
- Is the new operator registered in the State of Utah: YES Business Number: 793304-0143
- (R649-9-2) Waste Management Plan has been received on: IN PLACE
- Inspections of LA PA state/fee well sites complete on: n/a
- Reports current for Production/Disposition & Sundries on: ok
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM 7/6/2006 BIA
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: 7/6/2006
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 6/30/2006

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 7/31/2006
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 7/31/2006
- Bond information entered in RBDMS on: n/a
- Fee/State wells attached to bond in RBDMS on: n/a
- Injection Projects to new operator in RBDMS on: 7/31/2006
- Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: 104061650
- Indian well(s) covered by Bond Number: 104061656

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: See Attached List
2. NAME OF OPERATOR: Journey Operating, L.L.C. <span style="float:right">N 1435</span>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 
3. ADDRESS OF OPERATOR: 1201 Louisiana, Suite 1040 CITY Houston STATE TX ZIP 77002		7. UNIT or CA AGREEMENT NAME: See Attached List
4. LOCATION OF WELL FOOTAGES AT SURFACE: See Attached List		8. WELL NAME and NUMBER: See Attached List
PHONE NUMBER: (713) 655-0595		9. API NUMBER: See Attach
10. FIELD AND POOL, OR WILDCAT: 		
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: _____		COUNTY: San Juan
		STATE: UTAH

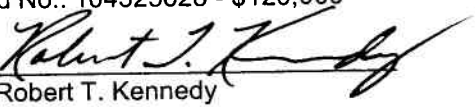
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of work completion: _____	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION		

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Journey Operating, L.L.C. advises, effective June 9, 2006, Citation Oil & Gas Corp. will become the operator of the wells on the attached list.

Citation Oil & Gas Corp. (N0265)  
8223 Willow Place South  
Houston, TX 77070  
(281) 517-7800  
Bond No.: 104325628 - \$120,000


BLM BOND = 104061650  
BIA BOND = 104061656

By:   
Robert T. Kennedy  
Sr. Vice President Land

NAME (PLEASE PRINT) <u>Brian A. Baer</u>	TITLE <u>President</u>
SIGNATURE <u>Brian A. Baer</u>	DATE <u>6/9/2006</u>

(This space for State use only)

**APPROVED** 7/13/2006

  
Earlene Russell  
Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

**RECEIVED**

**JUN 23 2006**

DIV. OF OIL, GAS & MINING



## RICHARDSON OPERATING COMPANY

4725 S. Monaco Street, Suite 200  
Denver, Colorado 80237  
(303) 830-8000 Fax (303) 830-8009

RECEIVED

AUG 02 2013

DIV. OF OIL, GAS & MINING

July 29, 2013

Attn: Zeke Clements  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Re: Sundry Notices and Reports on Wells – Change of Operator and Transfers of Authority to Inject

Dear Zeke:

Enclosed for approval by the Utah Division of Oil, Gas and Mining, please find two originally executed Sundry Notices and Reports on Wells on Form 9, for the following 18 leases and wells (API # included):

<u>Lease #</u>	<u>Well Name</u>	<u>API Well No.</u>
UTU-20894	Wash Unit 2	43-037-31324 ✓
UTU-20895	Havasus-Federal 41-24	43-037-31279 ✓
UTU-20895	Havasus-Federal 42-24	43-037-31298 ✓
UTU-40361	Bannock -Fed 21-33	43-037-31425 ✓
UTU-52333	24-4 Kiva Federal	43-037-31745 ✓
UTU-52333	Navajo Federal 12-4	43-037-31395 ✓
UTU-52333	Navajo Federal 14-4	43-037-31321 ✓
UTU-52333	Navajo Federal 21-9	43-037-31267 ✓
UTU-52333	Navajo Federal 4-1	43-037-31112 ✓
UTU-52333	Navajo Federal 4-2	43-037-31161 ✓
UTU-52333	Navajo Federal 42-9	43-037-31263 ✓
UTU-52333	Navajo Federal 4-4	43-037-31179 ✓
UTU-52333	Navajo Federal 9-1	43-037-31001 ✓
UTU-56185	Arabian Federal 3	43-037-31287 ✓
UTU-56186	Havasus-Federal 11-19	43-037-31458 ✓
UTU-56186	Havasus-Federal 22-19	43-037-31278 ✓
UTU-58728	Navajo Federal 42-5	43-037-31261 ✓
UTU-58728	Navajo Federal 43-5	43-037-31317 ✓

APPROVED

AUG 19 2013

DIV. OIL GAS & MINING  
BY: Raehee Medina

Also enclosed for the approval by the Utah Division of Oil, Gas and Mining, please find one originally executed Transfer of Authority to Inject on Form UIC Form 5 for the following seven wells:

<u>Lease #</u>	<u>Well Name</u>	<u>API Well No.</u>
UTU-20895	Havasus-Federal 42-24	43-037-31298 ✓
UTU-52333	Navajo Federal 12-4	43-037-31395 ✓
UTU-52333	Navajo Federal 14-4	43-037-31321 ✓
UTU-52333	Navajo Federal 21-9	43-037-31267 ✓
UTU-52333	Navajo Federal 4-1	43-037-31112 ✓
UTU-56186	Havasus-Federal 11-19	43-037-31458 ✓
UTU-58728	Navajo Federal 43-5	43-037-31317 ✓

Please return the approved documents for each well to:

Richardson Operating Company  
4725 S. Monaco Street, Suite 200,  
Denver, Colorado 80237.

If you have any questions, please do not hesitate to contact me at the number above or via email at [land@richardsonoil.com](mailto:land@richardsonoil.com).

Sincerely,



Ann Barthrop  
Senior Land Analyst

Enclosures

RECEIVED  
AUG 02 2013  
Div. of Oil, Gas & Mining

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET (for state use only)**

**ROUTING**  
 CDW

**X - Change of Operator (Well Sold)**

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

**4/1/2013**

**FROM:** (Old Operator):

N0265-Citation Oil & Gas Corp

P O BOX 690688

Houston, TX. 77269

Phone: 1 (281) 891-1000

**TO:** ( New Operator):

N2400-Richardson Operating Co.

4725 S Monaco Street, Suite 200

Denver, CO. 80237

Phone: 1 (303)830-8000

**CA No.**

**Unit:**

**Kiva(Upper Mesa)**

WELL NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
See Attached List								

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 8/2/2013
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 8/2/2013
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 8/26/2013
- Is the new operator registered in the State of Utah: \_\_\_\_\_ Business Number: 8776630-0143
- (R649-9-2) Waste Management Plan has been received on: N/A
- Inspections of LA PA state/fee well sites complete on: N/A
- Reports current for Production/Disposition & Sundries on: 8/19/2013
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM Not Yet BIA N/A
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: Not Yet
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: Not Yet
- Underground Injection Control ("UIC")** Division has approved UIC Form 5 Transfer of Authority to Inject, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 8/7/2013

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 8/26/2013
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 8/26/2013
- Bond information entered in RBDMS on: 8/26/2013
- Fee/State wells attached to bond in RBDMS on: N/A
- Injection Projects to new operator in RBDMS on: 8/26/2013
- Receipt of Acceptance of Drilling Procedures for APD/New on: N/A

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: RLB0002500
- Indian well(s) covered by Bond Number: N/A
- (R649-3-1) The **NEW** operator of any state/fee well(s) listed covered by Bond Number N/A
- The **FORMER** operator has requested a release of liability from their bond on: N/A

**LEASE INTEREST OWNER NOTIFICATION:**

- (R649-2-10) The **NEW** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

**COMMENTS:**

Citation Oil & Gas Corp (N0265) to Richardson Operating Co. (N2400)  
Effective 1-April-2013

Well Name	Sec.	Township	Range	API No.	Utah Entity No.	Mineral Lease	Well Type	Well Status	Unit Name
						Type			
NAVAJO FEDERAL 9-1	09	390S	250E	4303731001	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FED 4-1	04	390S	250E	4303731112	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FEDERAL 4-2	04	390S	250E	4303731161	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FEDERAL 4-4	04	390S	250E	4303731179	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FEDERAL 42-5	05	390S	250E	4303731261	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FEDERAL 42-9	09	390S	250E	4303731263	9975	Federal	Water Source	Active	KIVA (UPPER MESA)
NAVAJO FED 21-9	09	390S	250E	4303731267	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FED 43-5	04	390S	250E	4303731317	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FED 14-4	04	390S	250E	4303731321	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FED 12-4	04	390S	250E	4303731395	9975	Federal	Water Injection	Plugged	KIVA (UPPER MESA)
24-4 KIVA FEDERAL	04	390S	250E	4303731745	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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AUG 02 2013

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Change of Operator</u>		5. LEASE DESIGNATION AND SERIAL NUMBER: Federal UTU-52333
2. NAME OF OPERATOR: Richardson Operating Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
3. ADDRESS OF OPERATOR: 4725 S Monaco St. Suite 200 CITY Denver STATE CO ZIP 80237		7. UNIT or CA AGREEMENT NAME: NA
PHONE NUMBER: (303) 830-8000		8. WELL NAME and NUMBER: NAVAJO FEDERAL 42-9
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1850 N 1140 E		9. API NUMBER: 037-31263
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENE 9 39S 25E		10. FIELD AND POOL, OR WILDCAT: KIVA
COUNTY: SAN JUAN		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Citation Oil & Gas Corp. has sold the captioned well to Richardson Operating Company and requests that they be named as Operator of Record effective 4/1/2013

Please release this well from coverage under Citation Oil & Gas Corp.'s Utah Statewide Bond # 104325628.

On behalf of Citation Oil & Gas Corp. I hereby certify that the foregoing is true and correct:

Sharon Ward Permitting Manager: Sharon Ward Date: 4/1/2013

By execution of this document, Richardson Operating Company requests the State of Utah to approve them as Operator of Record for the above captioned well and accepts responsibility for this well under it's Statewide Oil and Gas Lease Bond in favor of the United States Department of the Interior, Bureau of Land Management Bond # RLB0002500.

On behalf of Richardson Operating Company, I hereby certify that the foregoing is true and correct:	
NAME (PLEASE PRINT) <u>David B. Richardson, Jr.</u>	TITLE <u>President</u>
SIGNATURE <u>D. B. Richardson</u>	DATE <u>7-29-2013</u>

(This space for State use only)



## RICHARDSON OPERATING COMPANY

4725 S. Monaco Street, Suite 200  
Denver, Colorado 80237  
(303) 830-8000 Fax (303) 830-8009

RECEIVED

AUG 02 2013

DIV. OF OIL, GAS & MINING

July 29, 2013

Attn: Zeke Clements  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Re: Sundry Notices and Reports on Wells – Change of Operator and Transfers of Authority to Inject

Dear Zeke:

Enclosed for approval by the Utah Division of Oil, Gas and Mining, please find two originally executed Sundry Notices and Reports on Wells on Form 9, for the following 18 leases and wells (API # included):

<u>Lease #</u>	<u>Well Name</u>	<u>API Well No.</u>
UTU-20894	Wash Unit 2	43-037-31324 ✓
UTU-20895	Havasu-Federal 41-24	43-037-31279 ✓
UTU-20895	Havasu-Federal 42-24	43-037-31298 ✓
UTU-40361	Bannock -Fed 21-33	43-037-31425 ✓
UTU-52333	24-4 Kiva Federal	43-037-31745 ✓
UTU-52333	Navajo Federal 12-4	43-037-31395 ✓
UTU-52333	Navajo Federal 14-4	43-037-31321 ✓
UTU-52333	Navajo Federal 21-9	43-037-31267 ✓
UTU-52333	Navajo Federal 4-1	43-037-31112 ✓
UTU-52333	Navajo Federal 4-2	43-037-31161 ✓
UTU-52333	Navajo Federal 42-9	43-037-31263 ✓
UTU-52333	Navajo Federal 4-4	43-037-31179 ✓
UTU-52333	Navajo Federal 9-1	43-037-31001 ✓
UTU-56185	Arabian Federal 3	43-037-31287 ✓
UTU-56186	Havasu-Federal 11-19	43-037-31458 ✓
UTU-56186	Havasu-Federal 22-19	43-037-31278 ✓
UTU-58728	Navajo Federal 42-5	43-037-31261 ✓
UTU-58728	Navajo Federal 43-5	43-037-31317 ✓

APPROVED

AUG 19 2013

DIV. OIL GAS & MINING  
BY: Raehee Medina

Also enclosed for the approval by the Utah Division of Oil, Gas and Mining, please find one originally executed Transfer of Authority to Inject on Form UIC Form 5 for the following seven wells:

<u>Lease #</u>	<u>Well Name</u>	<u>API Well No.</u>
UTU-20895	Havasus-Federal 42-24	43-037-31298 ✓
UTU-52333	Navajo Federal 12-4	43-037-31395 ✓
UTU-52333	Navajo Federal 14-4	43-037-31321 ✓
UTU-52333	Navajo Federal 21-9	43-037-31267 ✓
UTU-52333	Navajo Federal 4-1	43-037-31112 ✓
UTU-56186	Havasus-Federal 11-19	43-037-31458 ✓
UTU-58728	Navajo Federal 43-5	43-037-31317 ✓

Please return the approved documents for each well to:

Richardson Operating Company  
4725 S. Monaco Street, Suite 200,  
Denver, Colorado 80237.

If you have any questions, please do not hesitate to contact me at the number above or via email at [land@richardsonoil.com](mailto:land@richardsonoil.com).

Sincerely,



Ann Barthrop  
Senior Land Analyst

Enclosures

RECEIVED  
AUG 02 2013  
Div. of Oil, Gas & Mining

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET (for state use only)**

ROUTING

CDW

**X - Change of Operator (Well Sold)**

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

**4/1/2013**

**FROM:** (Old Operator):

N0265-Citation Oil & Gas Corp

P O BOX 690688

Houston, TX. 77269

Phone: 1 (281) 891-1000

**TO:** ( New Operator):

N2400-Richardson Operating Co.

4725 S Monaco Street, Suite 200

Denver, CO. 80237

Phone: 1 (303)830-8000

**CA No.**

**Unit:**

**Kiva(Upper Mesa)**

WELL NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
See Attached List								

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 8/2/2013
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 8/2/2013
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 8/26/2013
- 4a. Is the new operator registered in the State of Utah:                      Business Number: 8776630-0143
- 5a. (R649-9-2)Waste Management Plan has been received on: N/A
- 5b. Inspections of LA PA state/fee well sites complete on: N/A
- 5c. Reports current for Production/Disposition & Sundries on: 8/19/2013
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM Not Yet BIA N/A
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: Not Yet
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: Not Yet
- Underground Injection Control ("UIC")** Division has approved UIC Form 5 Transfer of Authority to **Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 8/7/2013

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 8/26/2013
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 8/26/2013
- Bond information entered in RBDMS on: 8/26/2013
- Fee/State wells attached to bond in RBDMS on: N/A
- Injection Projects to new operator in RBDMS on: 8/26/2013
- Receipt of Acceptance of Drilling Procedures for APD/New on: N/A

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: RLB0002500
- Indian well(s) covered by Bond Number: N/A
- 3a. (R649-3-1) The **NEW** operator of any state/fee well(s) listed covered by Bond Number N/A
- 3b. The **FORMER** operator has requested a release of liability from their bond on: N/A

**LEASE INTEREST OWNER NOTIFICATION:**

- (R649-2-10) The **NEW** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

**COMMENTS:**

Citation Oil & Gas Corp (N0265) to Richardson Operating Co. (N2400)  
Effective 1-April-2013

Well Name	Sec.	Township	Range	API No.	Utah Entity No.	Mineral Lease	Well Type	Well Status	Unit Name
						Type			
NAVAJO FEDERAL 9-1	09	390S	250E	4303731001	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FED 4-1	04	390S	250E	4303731112	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FEDERAL 4-2	04	390S	250E	4303731161	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FEDERAL 4-4	04	390S	250E	4303731179	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FEDERAL 42-5	05	390S	250E	4303731261	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)
NAVAJO FEDERAL 42-9	09	390S	250E	4303731263	9975	Federal	Water Source	Active	KIVA (UPPER MESA)
NAVAJO FED 21-9	09	390S	250E	4303731267	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FED 43-5	04	390S	250E	4303731317	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FED 14-4	04	390S	250E	4303731321	9975	Federal	Water Injection	Active	KIVA (UPPER MESA)
NAVAJO FED 12-4	04	390S	250E	4303731395	9975	Federal	Water Injection	Plugged	KIVA (UPPER MESA)
24-4 KIVA FEDERAL	04	390S	250E	4303731745	9975	Federal	Oil Well	Producing	KIVA (UPPER MESA)

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

RECEIVED

AUG 02 2013

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL ☒ GAS WELL ☐ OTHER Change of Operator

2. NAME OF OPERATOR:  
Richardson Operating Company

3. ADDRESS OF OPERATOR:  
4725 S Monaco St. Suite 200 CITY Denver STATE CO ZIP 80237

PHONE NUMBER:  
(303) 830-8000

5. LEASE DESIGNATION AND SERIAL NUMBER:  
Federal UTU-52333

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:  
N/A

7. UNIT or CA AGREEMENT NAME:  
NA

8. WELL NAME and NUMBER:  
NAVAJO FEDERAL 42-9

9. API NUMBER:  
037-31263

10. FIELD AND POOL, OR WILDCAT:  
KIVA

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 1850 N 1140 E

COUNTY: SAN JUAN

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENE 9 39S 25E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Citation Oil & Gas Corp. has sold the captioned well to Richardson Operating Company and requests that they be named as Operator of Record effective 4/1/2013

Please release this well from coverage under Citation Oil & Gas Corp.'s Utah Statewide Bond # 104325628.

On behalf of Citation Oil & Gas Corp. I hereby certify that the foregoing is true and correct:

Sharon Ward Permitting Manager: Sharon Ward Date: 4/1/2013

By execution of this document, Richardson Operating Company requests the State of Utah to approve them as Operator of Record for the above captioned well and accepts responsibility for this well under it's Statewide Oil and Gas Lease Bond in favor of the United States Department of the Interior, Bureau of Land Management Bond # RLB0002500.

On behalf of Richardson Operating Company, I hereby certify that the foregoing is true and correct:

NAME (PLEASE PRINT) David B. Richardson, Jr.

TITLE

President

SIGNATURE

D. B. Richardson, Jr.

DATE

7-29-2013

(This space for State use only)